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ABSTRACT

Developed by Project Transition, a 3-year project at Ohio State University, this resource guide deals with physical fitness and personal hygiene training of institutionalized mentally retarded adults, to prepare them for transition into community living environments. Included in the guide are recommended teaching strategies, an assessment system, and related curriculum materials. The teaching strategies cover the concepts of reinforcement, prompting, generalization of skills, and teaching for maintenance of acquired skills. The assessment system yields qualitative and quantitative measures of individual performance in several skill areas, using standardized testing procedures. The curriculum materials include a series of curriculum-embedded tests in both physical fitness and personal hygiene. The five skills taught in the physical fitness component are cardiorespiratory endurance, upper body strength and endurance, lower back and hamstring flexibility, abdominal endurance, and grip strength. The five skills included for personal hygiene are hand washing, face washing, toothbrushing, deodorant use, and personal appearance. For each skill area, the information is divided into: goal, skill, materials needed, teaching recommendations, teaching sequence (including instructional objectives), supplementary activities, generalization ideas, and maintenance ideas. (JDD)

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P R O J E C T

TRANSITION

Physical Fitness • Personal Hygiene *The Ohio State University*

User Manual

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Fitness and Hygiene Programming for the Severely Handicapped: A Curriculum-Embedded Assessment Guide

P R O J E C T

TRANSITION

Physical Fitness • Personal Hygiene *The Ohio State University*

School of Health, Physical Education and Recreation

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I. INTRODUCTION TO PROJECT TRANSITION

Overview

Project TRANSITION was a three year field-initiated research grant awarded to The Ohio State University from the Office of Special Education and Rehabilitative Services, U.S. Department Of Education (1983-1986). The overall goal of the Project was to investigate, develop, utilize and disseminate materials and research results related to the physical fitness and personal hygiene training of institutionalized mentally retarded adults. It was anticipated that training in these areas would assist in the preparation of adults for transition into community living environments from their present institutional living environment.

The Project staff developed a total programming approach consisting of curriculum materials in physical fitness and personal hygiene, an assessment system to monitor the participants' progress, and standardized testing procedures. All of these materials resulted in this Project's research which involved 114 residents at the Columbus Developmental Center, Columbus, Ohio. Data have been collected and analyzed, plus implications have been drawn on the usefulness of Project materials. The Project staff believe that a user manual on physical fitness and personal hygiene training could effectively and efficiently be used by direct care staff at large developmental centers, intermediate care facilities and community living settings for the mentally retarded.

Enclosed in this resource of materials are some recommended teaching strategies, an assessment system and related (embedded) curriculum materials used by the Project staff. The teaching strategies include brief summaries on the concepts of reinforcement and prompting, teaching for generalization of skills, and teaching for maintenance of acquired skills. Also included are examples used by the Project staff and additional resources for more information on these topics.

The curriculum materials include a series of five curriculum-embedded tests in both physical fitness and personal hygiene. The tests are actually those materials used to teach the selected skills as well and is therefore referred to as a curriculum-embedded system. All ten of the skills within the main part of the curriculum were selected on the basis of their functional value. This was determined by surveying the fitness and hygiene needs of institutionalized adults with severe retardation prior to implementing the Project. The five skills chosen for physical fitness include: (a) **Cardiorespiratory endurance,** (b) **Upper body strength and endurance,** (c) **Lower back and hamstring flexibility,** (d) **Abdominal endurance,** and (e) **Grip strength.** Cardiorespiratory endurance is probably the single most important component of health-related physical fitness.

Upper body strength and endurance is considered an item that will enhance an individual's functional independence. The ability to lift and carry articles has vocational as well as leisure time implications. Maintenance of good low back and hamstring flexibility reduces the risk of low back pain. Maintenance of good abdominal muscle strength and endurance also reduces the risk of developing low back pain. Grip strength is also considered a fitness item that will enhance the individual's ability to function independently. Skills such as opening doors and carrying objects also have vocational as well as leisure time implications.

The five skills chosen for personal hygiene include: (a) **Hand washing,** (b) **Face washing,** (c) **Toothbrushing,** (d) **Deodorant use,** and (e) **Personal appearance.** These hygiene skills are indicative of the health-related needs of institutionalized adults targeted for transition into the community. The hygiene skills training sequences were designed with an emphasis on independent routine use in an individual's natural environment.

To be emphasized is that the Project TRANSITION model may have potential for application to other fitness and hygiene skills and also to skills from other curricular areas for the benefit of individuals with a wide range of handicaps from mild to profound in nature. Not only could the skills be modified to meet the specific needs of the users but also the scoring system model could be expanded to include more independent scores for mildly handicapped individuals. An example would be to add more levels of independence to encourage self monitoring of the learned skills. This type of independence must be sought and this type of modification during the field testing process is most certainly welcomed. In addition, even though Project TRANSITION targeted an older population, its entire system may be quite useful with younger participants. The model, that is further explained in the following pages, should not be viewed therefore as a final product, but rather as a workable system to assist in the teaching of various skills to handicapped individuals.

Teaching Considerations

Prior to introducing the curriculum, it is necessary to review some initial considerations that are an integral part of the Project TRANSITION model. These are: reinforcement, prompting, generalization and maintenance. Please note that general recommendations are made to allow incorporation in all the curriculum materials. Specific recommendations for each skill can be found within the curriculum itself.

Reinforcement

A reinforcer is an event or stimulus that occurs following an individual's response or action. When the event or stimulus causes an increase in the amount of correct reponses, then it is considered a "positive reinforcer". All individuals need to be positively reinforced for a job well done. The reinforcement strategy used by the Project TRANSITION staff was to provide positive age-appropriate social reinforcement to all the participants for correct responses related to any skill being trained. The types of positive social reinforcers were individualized to meet the needs of the participants. These included hand shakes, pats on the back, smiles, verbal praise and encouragement. The social reinforcers were given immediately after successful attempts during the training.

In addition to positive social reinforcers, selected age-appropriate object and/or edible reinforcers were made available to the participants. These reinforcers would be made available following each daily session. In most cases the participant could choose the reinforcer. Available were sugar-free gum, caffeine free and sugar-free soda, age-appropriate stickers (designed for the Project), a few minutes of radio listening with earphones, a hand-written note to a case manager (who might provide additional verbal reinforcement), or a daily checkmark chart noting good effort. The reinforcers were individualized to meet the particular interests of each participant. If the participant was non-compliant during the sessions, no object or edible reinforcers would be given.

Throughout the Project, efforts were made to delay or reduce the type and amount of the reinforcer in hopes that the participants would eventually be able to monitor their success and be inwardly motivated toward further participation.

For additional readings and references on the use of reinforcement see: Sulzer-Azaroff, B. & Mayer, G. (1985),(2nd ed.). *Applying behavior-analysis procedures with children and youth.* New York: Holt, Rinehart and Winston; Cooper, J., Heron, T. & Heward, W. (1987). *Applied behavior analysis.* Columbus, OH.: Charles E. Merrill.

Prompting

Prompting refers to the action taken by an instructor to stimulate desired learner behavior. A prompt can be a visual cue, a verbal direction, a demonstration or model of a skill, or entail varying amounts of physical assistance or guidance.

The prompting system used by Project TRANSITION was the system of "least intrusive prompts" (Snell,1986). In this system, it is recommended that the learner be provided the best opportunity to perform a given skill with the least intrusive type of prompt. The usefulness of this system is that the instructor is constantly fading the more intrusive prompts by offering the least intrusive type of prompt first, giving the learner the benefit of the doubt that he or she will not need a more intrusive prompt. If a person successfully performs a skill with less prompting, there is no need for a more intrusive prompt.

The least intrusive prompt used by the Project staff was a verbal prompt to initiate a skill. The prompts ranged from an initial verbal prompt to a high amount of physical/visual/verbal prompting throughout the skill. The amount of prompting needed was actually an indication of the independence of the person attempting a skill. Incorrect responses were followed by verbal feedback as to the incorrect performance of the skill (e.g. "push the bar so your arms are straight up"). A further description of the prompts used by the Project staff is provided in the Assessment Section presented next.

Generalization

The generalization of acquired skills is the ability of an individual to perform a skill in a variety of different settings, at different times and around different people. This unquestionably makes the learned skill more valuable, appropriate and functional. Though the data collected in Project TRANSITION do not account for the generalization of skills learned, many efforts were made to incorporate teaching for generalization. These efforts included variations in the trainer, time, location and order of the skills trained, and training at times and in places with materials natural to the task. This encouraged learning the skills under a variety of conditions. In addition, as a higher degree of competency was gained by a participant, supplementary activities were incorporated into the teaching process.

Many of the supplementary activities used are listed within the curriculum materials. Variations in the equipment used in the hygiene training, once competency was attained, included changes in the type of soap, toothpaste or deodorant dispenser used in training. All of these recommended variations can easily be incorporated when planning for and carrying out instruction. Efforts must continually be made to encourage instruction to take place around different individuals, in natural environments, with variable materials and at logically appropriate yet varied times.

Maintenance

The maintenance of an acquired skill is when the skill is retained over time (Stokes & Baer, 1977). One of the final goals of fitness and hygiene training is to allow the individual's behavior to be controlled by naturally occurring consequences (Bauman & Iwata, 1977). Therefore, a desirable component of training is to either eliminate strong reinforcement or to fade the reinforcement as quickly as possible.

A state of physical fitness also requires attention to other specific guidelines unique to physical fitness. These should be closely followed in order to maintain a developed level of physical fitness. The American College of Sports Medicine (1980) recommends these guidelines for fitness maintenance:

1. The type of activity should include large muscle groups, and be continuous exercise.

2. The intensity of exercise should cause an elevated heart rate (optimally 60-90% of maximum).

3. The duration of activity should be at least 15 minutes.

4. The frequency of exercise should be at least three times per week.

5. Attempts should be made to increase the amount of work done per session. This occurs by increasing the intensity, duration or a combination of the two during a training session.

These guidelines have, however, been developed for seemingly healthy non-handicapped adults.

Many of the severely handicapped participants in Project TRANSITION had to initially begin physical fitness activities at a significantly low level due to initial poor levels of fitness. These guidelines do provide a goal to work towards and a system to maintain improved levels of fitness following a training program.

Additional principles of exercise to use in teaching fitness activities to the retarded are recommended by Bauer (1981). These principles of exercise may be used as a guide in the development of exercise programs:

1. Exercise should be adapted to each participant's exercise tolerance. **Too much exercise may be harmful.**

   A. Watch for fatigue or undue discomfort in the students while they are exercising.

   B. The presence of exhaustion and slow recuperation, and coughing, indicate that exercises are too severe.

   C. With unfit groups , exercise tolerance will be low at the start but should gradually rise.

2. The principle of "overloading" should be applied to induce a higher level of performance. The "overload" principle states that increases in muscular strength and aerobic fitness result from an increase in the intensity of work performed in a given period of time. The intensity of work can be progressively increased in the following ways:

A. Increase the number of repetitions, sets or types of exercise performed. An example would be to send the individuals through an obstacle course six, seven or more times in a 30-minute period instead of three or four times.

B. Increase the distance covered. As the student's tolerance for exercise increases, through faster times or lowered exercise pulse rates, increase the distance covered.

C. Decrease the rest interval between actual sessions.

3. The exercise plan should provide for progression. Without progression there probably will not be an increase in fitness. The same amount of exercise faithfully executed each day will contribute to the maintenance of whatever aerobic fitness already exists, but it will not improve fitness.

4. Physical development should be charted and recorded at set times.
   A. Keep individual records.
   B. Measure participant height, weight and percent of body fat at intervals.
   C. Watch for large weight gains, weight loss, etc.

Suggested readings on the concepts of maintenance and generalization include: Snell, M.E. (1986). *Systematic instruction of the moderately and severely handicapped.* (3rd Ed.) Columbus: Merrill; Sulzer-Azaroff & Mayer, G.(1985) *Applying behavior-analysis procedures with children and youth.* (2nd Ed.) New York: Holt, Rinehart and Winston. Regarding physical fitness, see Pollock, M. & Blair, S. (1981). Exercise prescription. *Journal of Physical Education, Recreation and Dance,* 52,30-55.

II. THE ASSESSMENT PROCESS

Introduction

The Project TRANSITION assessment process yields measures on both the quality and quantity of individual performance in the physical fitness and personal hygiene skill areas previously described. The qualitative measures consist of the Indices of Independence while the quantitative measure is described as the Performance Score. Each type of measure will be described.

The qualitative measures are two separate indices of independence which measure the individual's ability to independently complete a target skill. These scores are:

1. **Percent Task Score:** This is a single percentage score which represents the percent of the total number of steps in a skill which the individual can complete independently, with only a verbal prompt to initiate the skill.

2. **Average Independence Score:** This is a single percentage score which represents the degree of independence an individual has achieved by averaging the levels of prompting needed in the completion of all the steps for the target skill. The levels of prompting used in calculating the average independence score are based on numeric values related to how much prompting is needed or how independent the individual is in performing the skill. The numeric values are as follows:

Numeric Value	Level of Independence
0 = Unobserved	The individual will not attempt the task, even with verbal and physical prompting.
1 = High Physical +	The individual requires constant physical and verbal prompting with modeling.
2 = Minimal Physical +	The individual requires physical prompting to initiate the task and verbal prompting and modeling to complete the task.
3 = High Verbal/Modeling	The individual requires constant verbal prompting and modeling throughout the task.
4 = Minimal Verbal	The individual requires some verbal prompting (without modeling) throughout the task.
5 = Independent	The individual requires only a verbal prompt to initiate the task.

The quantitative measure or **Performance Score** is used only in the physical fitness skills. It measures the individual's physical performance change such as number of pounds lifted (Upper Body Strength/Endurance), number of sit-ups completed (Abdominal Endurance) and seconds during running (Cardiorespiratory Endurance).

The independence levels described are based upon an instructional strategy utilizing a "system of least intrusive prompts" (Snell, 1986). For each step in a skill, prompts are applied from the least intrusive (only a verbal prompt to initiate the task) to the most intrusive (constant physical prompting, including modeling and verbal cues). A short time period (approximately three seconds) is allowed for the individual to respond after any level of prompt is presented. If no response occurs during this time, the next more intrusive prompt is provided. If an error is made, it is interrupted immediately and the next level of prompt is given. When starting the next step, the least intrusive prompt is focused upon again. The individual usually receives verbal reinforcement for attending to the task regardless of what level of prompt is required.

The ultimate goal of training for independence is to progress beyond the Independent (Ind) level as described by this assessment system, namely, to go to a self-initiating system in which the individual needs no verbal cue to begin the task. This independence could also include a system of self-recording. This, in essence, could be the next level within the Indices of Independence. However, for the purposes of Project TRANSITION, the self-initiated level of independence was felt to be beyond realistic expectations of the participants within the limitations of the Project. It is recommended, as appropriate, to go beyond the Independent level used in our assessment system for participants who can function at a higher level. Note that the score sheets in Appendix G have a column for Total Independence. This column is not to be used when calculating the percentages used in the Project TRANSITION Assessment System, but provides an alternative means to measure a participant's progress towards total independence.

Percent Task Score

The Percent Task Score indicates the percent of steps in a skill which an individual can complete independently, that is, with only an initial verbal prompt. This score is delineated by counting the number of steps the individual can complete at the independent level. These are then marked in the far right hand column on the scoring grid. The score is then calculated by the use of the following equation:

$$\frac{\text{(Number of Steps Completed Independently)}}{\text{(Number of steps in the skill)}} \times 100 = \text{Percent Task Score}$$

For each skill the number of Instructional Objectives (IO's) and corresponding steps vary. However, by calculating the percentage for each skill, there is a common reference across all skills. A brief example of the Percent Task Score follows:

ABDOMINAL ENDURANCE
(CHART)

LEVELS OF INDEPENDENCE

STEPS	(0) UO	(1) HI PHY+	(2) MIN PHY+	(3) HI V/M	(4) MIN V	(5) IND	TOTAL INDEPENDENCE
1.1						✓	
1.2						✓	
1.3						✓	
1.4						✓	
2.1							
2.2							
2.3							
3.1							
3.2							
3.3							
3.4							
3.5							
3.6							
3.7							
Sub-totals						4	

28 % Task Score $\left(\frac{\text{\# Steps Ind.}}{14}\right) \times 100$

___ Ave. Ind. Score $\left(\frac{\text{Sum Points}}{70}\right) \times 100$

___ Performance Score

In this example, the individual could complete the first four steps with only a verbal prompt to initiate the sit-up. However, starting at step 2.1 additional prompting was necessary throughout the other steps. Thus, only 4 of the 14 total steps could be completed with only the initial verbal prompt.

The Percent Task Score enables the instructor to make quick evaluations of the individual's progress in completing the skill with only one initial verbal prompt. The check marks in the right hand column reflect this independent ability. An increase in the number of check marks in the right hand column represents an increased amount or percent of the skill the individual can perform when given only a verbal prompt to initiate the skill.

It should be noted that the Percent Task Score is the first score recorded in the assessment process. This is the score that is frequently used in other assessment systems to indicate what has been learned by the individual being tested. It should also be noted that even if some steps require additional prompting, subsequent steps may be scored as "independent" if only an initial verbal cue (or no cue) is required.

Average Independence Score

The Average Independence Score is a percentage score which represents the degree of independence an individual has achieved by averaging the prompting needed to complete all the steps for a given target skill. As stated previously, each level of independence (i.e. prompt), at each step has a corresponding numeric value. The numeric value of each level of independence extends from 0, for Unobserved, to 5, for Independent. Thus 5 out of a potential 5 (5/5) is the highest possible score for each step. The level of independence for each step is recorded. A summation of the fractions then gives an Average Independence Score in percent form. The example which follows builds on the prior one.

ABDOMINAL ENDURANCE
(CHART)

LEVELS OF INDEPENDENCE

STEPS	(0) UO	(1) HI PHY+	(2) MIN PHY+	(3) HI V/M	(4) MIN V	(5) IND	TOTAL INDEPENDENCE
1.1						✓	
1.2						✓	
1.3						✓	
1.4						✓	
2.1					✓		
2.2					✓		
2.3					✓		
3.1			✓				
3.2			✓				
3.3			✓				
3.4			✓				
3.5			✓				
3.6			✓				
3.7			✓				
Sub-totals			14		12	20	

28 % Task Score $\left(\frac{\text{\# Steps Ind.}}{14}\right) \times 100$

66% Ave. Ind. Score $\left(\frac{\text{Sum Points}}{70}\right) \times 100$

___ Performance Score

In this example, the individual could complete the first four steps at the independent level (getting 5 for each step for a total of 20). The next three steps required additional verbal prompting (getting 4 for each step for a total of 12). The last seven steps required minimal physical prompting to successfully complete the sit-up, with each step getting 2 points for a total of 14. By adding the fractions from each step the sum is 46/70. The next step is to divide the denominator or 70 into the numerator or 46 and multiply this number by 100 to get a percentage. In this example the percentage is 66%. This number represents the Average Independence Score in the sit-up example. Please note, the example provided should not give the impression that check marks always flow in a stepwise right-to-left fashion from the top to the bottom of a score sheet. Even if some steps require additional prompting, subsequent steps may be scored higher if less prompting is required.

The ultimate purpose of the Average Independence Score is to be able to monitor the individual's independence while performing the task. This can also be quickly and simply assessed by tracking the progression of the check marks from one score sheet to subsequent ones. If the individual is gaining independence, the check marks will move from the left side of the score sheet to the right side.

This score is the second score recorded in the assessment process. This gives additional "independence" information by assessing the person's progress towards freedom from prompts.

Performance Score

The Performance Score, a quantitative measure, is only used with the physical fitness skills. This score measures the performance level of the individual on each of the physical fitness skills. The performance score is necessary to monitor physical fitness improvements. Once the participant has the ability to independently perform the fitness skill as described by the curriculum, then fitness improvements can only be measured by changes in the flexibility, speed, strength or number of repetitions of the skill. It assumes the complete accomplishment of the skill for one repetition as defined by the skill's Goals, Instructional Objectives and Steps in the Teaching Sequence. Physical prompting may not be used to physically assist (e.g. pushing or pulling) the individual while recording a performance score. However, physical prompts may be used when the prompt does not physically improve the performance of the individual (e.g. like a physical touch to the shoulders). The parameters of the Performance Score for each of the physical fitness skills are as follows:

Abdominal endurance - Is measured by the number of sit-up repetitions accomplished in 60 seconds.

Upper Body Strength/Endurance - Is measured by the number of pounds (lbs.) that can be lifted through eight repetitions.

Flexibility - Is measured by the maximum distance the individual can reach, and hold for one second, along the Sit and Reach Box, measured in centimeters.

Grip Strength - Is measured by the amount of pressure the individual can exert on the vigorimeter or bulb syringe dynamometer. (Each hand is measured separately).

Cardiorespiratory Endurance - Is measured by the time, measured in seconds, it takes the individual to cover 300 yards.

A brief example follows which builds on the previous two examples:

ABDOMINAL ENDURANCE
(CHART)

LEVELS OF INDEPENDENCE

STEPS	(0) UO	(1) HI PHY+	(2) MIN PHY+	(3) HI V/M	(4) MIN V	(5) IND	TOTAL INDEPENDENCE
1.1						✓	
1.2						✓	
1.3						✓	
1.4						✓	
2.1					✓		
2.2					✓		
2.3					✓		
3.1			✓				
3.2			✓				
3.3			✓				
3.4			✓				
3.5			✓				
3.6			✓				
3.7			✓				
Sub-totals			14		12	20	

28 % Task Score $\left(\frac{\text{\# Steps Ind.}}{14}\right) \times 100$

66% Ave. Ind. Score $\left(\frac{\text{Sum Points}}{70}\right) \times 100$

10 Performance Score

In this hypothetical example, the individual was able to perform 10 sit-ups in 60 seconds. During each sit-up, the individual needed to be initially prompted by a physical touch to the shoulder. The prompting did not physically assist the individual in completing any sit-up.

Important: The Percent Task Score and Average Independence Score are recorded on the initial individual completion of the skill. The Performance Score is recorded on subsequent trials of the skill. The Performance Score is recorded after the Percent Task Score and Average Independence Score have been determined and recorded.

III. STANDARDIZATION OF TESTING

Recommendations for Standardized Testing Procedures

The tests used and the testing procedures followed by Project TRANSITION staff are briefly described in this section. They include: (a) general recommendations for testing, (b) a brief description of all test items, (c) facility recommendations, (d) equipment needs, (e) suggested verbal directions, (f) test descriptions, and (g) scoring. For a detailed description of the scoring procedure, see the section titled THE ASSESSMENT PROCESS.

Recommendations for Testing

1. Prior to testing or training in physical fitness all participants should have medical clearance.

2. Take time to develop a personal rapport with the individual prior to testing.

3. Use a positive approach toward the individual in the program.

4. Encourage each individual to give the best effort during testing.

5. Verbal reinforcement should be given following each test trial and should be specific (e.g. "You worked very hard doing the sit-ups"). Verbal reinforcement may have greater potential for motivating an individual to attempt a new behavior. This is particularly important with the severely handicapped. Verbal reinforcement should be given **during** any test trial for appropriate social behaviors.

6. The order of the fitness testing items does not need to be the same during each test. It is better to randomly select the order in which the tests are given. It is suggested that the hygiene testing items follow the order of hand washing, tooth brushing, face washing, deodorant use and personal appearance.

7. Prior to testing, practice using the scoring system. This includes being very familiar with the Instructional Objectives and subsequent steps in the Teaching Sequence. Practice should be with each other or with individuals who are not in training. Videotapes can also be used to insure teaching/testing consistency.

8. If many testers are involved in the scoring process, they should independently score an individual test and compare their scores to check for reliability of scoring. Percent of agreement is determined by dividing the number of agreements of each step in a particular skill by the total number of agreements plus disagreements. The quotient is multiplied by one hundred which figures the percentage of agreement among the evaluators. Eighty percent agreement or better is acceptable. If less than eighty percent, testers should re-do the reliability test.

9. Verbalize and demonstrate the fitness and hygiene test items to each individual. It is important to maintain the individual's attention during the demonstration. It is often helpful to have a testing aide to assist in the demonstration. The tester is advised to demonstrate each test item to each individual for every test session.

10. Score each skill immediately following the completion of testing. The individual should be appropriately dressed for physical fitness activities.

11. The scores should be recorded in this order: a) Percent Task Score; b) Average Independence Score; c) Performance Score (fitness only).

12. When building the fitness equipment to test in the areas of upper body strength/endurance, lower back and hamstring flexibility, and abdominal strength/endurance, all construction directions may be found in Jansma, Decker, McCubbin, Combs, & Ersing (1986). Also see Appendices C, D & E.

Physical Fitness Test Items

Cardiorespiratory Endurance

Test Item: 300 Yard Run/Walk

Facility: An indoor or outdoor area may be used. This area should be to the same size for each testing session. The start and finish line need to be pre-measured to 300 yards. The space Project TRANSITION utilized was limited, requiring the running course to be marked at 34 yards/lap. (See Appendix B)

Equipment: Stopwatch, large traffic cones, lightweight rope, floor tape. Ropes may be attached to the cones to reduce cutting corners and brightly colored floor tape may be used as an additional visual cue.

Verbal Direction: Following a demonstration of the skill (e.g. one lap), the individual is shown the starting line and instructed to run as fast as possible until told to stop. (e.g. "John, run the 300 as fast as you can. Ready. Go.") It is helpful to have the tester raise an arm above the head to signify ready, and drop the hand on the go command.

Test Description: This test item is administered to determine an individual's speed in running/walking 300 yards. It is recommended to test one individual at a time. The tester stands at the starting line, starting the watch as the runner starts and stopping the watch upon completing the designated test. Prompting (least intrusive to most intrusive) is initiated if the individual is unable to either start the task or to continue once the task was initiated. If physical prompting is necessary for task completion, the aide should be instructed not to pull the individual. All running should occur in the same direction. All testers must be proficient in using stopwatches prior to administering this test item. A gradual warm-up consisting of stretching exercises (see supplementary activities in flexibility) is recommended prior to testing.

Scoring: The Percent Task Score and Average Independence Score are recorded according to the prompts necessary as defined by the scoring system. The Performance Score is the amount of time (seconds) to complete the test.

Upper Body Strength/Endurance

Test Item: Upper Body Press

Facility: Indoor gymnasium or room preferred (flat level surface required).

Equipment: Gymnasium floor mats (to form area 3 feet wide, 7 feet long and 10 inches high). Two standing bar guides (description in Appendix C). Bar and weight plates of assorted weights, including 1 1/4, 2 1/2, 5, 7 1/2, 15, 20, 25 lb. plates, weight collars (2 1/2 lbs. each).

Verbal Directions: Following a demonstration, the individual is told to lift the weights, eight times. (e.g. "John, do your lifting.") The tester will count out loud the number of lifts completed and the number of lifts left to reach the final number.

Test Description: This test item is administered to determine the total amount of weight an individual can press for eight repetitions. The person assumes the "press" position getting in a back lying position with the bar placed across the highest part of the chest (mid sternum). Using an overhand grip, hands shoulder width apart, the individual raises the bar directly overhead by fully extending both arms. The individual then gradually lowers the bar to chest height and repeats the lifting sequence. The tester should assume a position standing over the head of the individual ready to assume control of the bar if necessary. A gradual warm-up consisting of arm circles and lifting with light weights is recommended prior to maximal lifting. Caution should be given to securing the weight collars on an intermittent basis. These collars secure the weights on the bar.

Scoring: The Percent Task Score and Average Independence Score are recorded according to the prompts defined by the scoring system. The Performance Score is the full amount of weight the individual can lift through the full range of motion for eight repetitions. Scores are one maximum set per day.

Lower Back and Hamstring Flexibility

Test Item: Sit and Reach Test

Facility: Indoor gymnasium or room preferred but flat level outdoor surfaces are acceptable.

Equipment: Sit and reach apparatus (See Appendix D)

Verbal Directions: Following a demonstration, the individual is told to get into position and do the skill. (e.g. "John, sit down and do your reaching as far as you can.")

Test Description: This test item is administered to determine the distance, to the nearest centimeter, that the individual is able to reach and hold for one second. The test is performed with shoes off unless an obvious leg length discrepancy is corrected for by an orthopedic lift. The individual is cautioned not to bob with the upper body, but to slowly reach forward as far as possible and hold for one second. The individual's knees are held down firmly if necessary, in order to remain in contact with the floor during the reach. In many cases, physical prompting is necessary to insure proper positioning for a measurement. The tester can physically assist in positioning but should not pull on the individual's hands in order to increase the flexibilty score. Gradual warm-up activities are recomended prior to testing. (See supplemental activities section for flexibility.)

Scoring: The Percent Task Score and Average Independence Score are recorded following the first attempt at completing the test according to the prompts necessary as described in the scoring system. The Performance Score is the distance measured, to the nearest centimeter, that the subject can reach and hold for one second. Three trials should be given with the best Performance Score recorded.

Abdominal Strength/Endurance

Test Item: Flexed Knee Sit-up (Arms Crossed.)

Facility: Gymnasium or large room with flat level surface.

Equipment: Gymnasium floor mats (approximately 4' X 6'), board equipped with foot straps (full description in Appendix E), stop watch.

Verbal Directions: Following a demonstration, the individual is instructed to assume the position and do the exercise (e.g. "John, sit down and do your sit-ups as fast as you can until I say stop").

Test Description: This test item is administered to determine the number of sit-ups an individual can complete in 60 seconds. To start, each individual assumes a back lying position with knees flexed, feet flat on the floor (anchored) approximately 12 to 18 inches from the buttocks. The individual then crosses the arms and places the hands securely on the opposite shoulders and maintains this position throughout the sit-up. The elbows must contact the thigh region. The individual is required to touch the midback on the exercise mat prior to the next sit-up. Each sit up should emphasize a roll-up form. The position of the feet and legs must be maintained in order to complete the sit-up sequence.

Scoring: The Percent Task Score and Average Independence Score are recorded according to the prompts necessary as described in the scoring system. Once it is determined the individual can do one repetition of the complete sit-up, time intervals can be initiated to eventually determine a Performance Score. The Performance Score is the total number of sit-ups completed in 60 seconds. The time should be started on the individual's initiation of the sit-up from the back lying position. No physical assistance can be given that will increase the number of sit-ups performed. However, physical prompting may be used to maintain hand position or to cue the individual to continue for the entire 60 seconds.

Grip Strength

Test Item: Hand Dynamometer Squeeze.

Facility: Gymnasium or available space.

Equipment: One (1) vigorimeter or syringe bulb dynamometer (full description in Appendix F).

Verbal Directions: Following a demonstration, the individual is told to squeeze the bulb, as hard as possible, with one hand. (e.g. "John, squeeze as hard as possible. Open, squeeze.")

Test Description: This test item is administered to determine the maximum grip pressure performed by each hand separately. The individual places the syringe bulb in the right hand, closing fingers and thumb around the bulb, performing one maximum contraction with that hand. The individual then places the device in the left hand closing fingers and thumb around the bulb, performing a maximum contraction. The size of the required bulb (medium or large) is determined by measuring hand size of the individual. The measurement is taken by wrapping a cloth measuring tape around an open palm of the hand, just below the fingers. If the individual's hand circumference is less than 19 centimeters, the medium sized bulb is used. If the individual's hand circumference is 19 centimeters or greater, the large bulb is used. While the individual squeezes the vigorimeter, the bulb can not touch any body part other than the hand being tested. The individual is tested on the right side first and then is tested on the left side. At least 15 seconds must be allowed between repeated trials on the same hand. Right and left hand trials should be alternated as the individual is tested.

Scoring: The Percent Task Score and Average Independence Score are recorded according to the prompts necessary as defined by the scoring system. The Performance Score is recorded to the nearest KPa*. Three trials with each hand should be given. The maximal score for each hand is recorded.

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*Note: KPa stands for Kilo Pascal Units, the measure of pressure indicated on the hand vigorimeter used by Project TRANSITION staff.

Hygiene Test Items

Hand Washing

Facility: A washroom in the working area or living area.

Equipment: A double faucet sink with a single spout, is preferred. If unavailable, it is advised to train using cold water for safety. Also required is a towel (cloth or paper) and a bar of soap. Individual bars or pump dispenser is recommended.

Verbal Directions: The individual is instructed to, "Wash your hands".

Test Description: The test item is administered to determine individual ability to wash and dry hands. The position of the "hot" and "cold" water faucets is shown. The individual is verbally prompted to begin the task. Modeling and physical guidance may be necessary in regulating the water flow and controlling the wet soap bar. Verbal cues may be necessary to keep the individual on task, minimize perseveration and regulate the time expended on the task.

Scoring: The Percent Task Score and Average Independence Score are recorded according to the prompts necessary, as described in the scoring system.

Tooth Brushing

Facility: A sink with cold running water, in a bathroom or living unit, is required.

Equipment: A soft or medium bristled toothbrush, a tube of toothpaste, a cup (plastic or paper), paper towels and/or a washcloth. An individual may use supplies modified for motoric disabilities (e.g. toothbrush with a strap; spouted or handled cup).

Verbal Directions: The individual is instructed to, "Brush your teeth".

Test Description: This test item is administered to determine individual ability to effectively brush teeth and use tooth brushing equipment. The test item is verbally prompted to begin the task. Modeling and physical guidance may be necessary in regulating water flow and monitoring the amount of toothpaste used. Consumption of toothpaste is a frequent distractor in this test item. Verbal cues may be necessary to keep the individual on task, minimize perseveration and to regulate the time expended on the task.

Scoring: The Percent Task Score and Average Independence Score are recorded according to the prompts necessary, as described in the scoring system.

Face Washing

Facility: A wash room in the living area.

Equipment: A double faucet sink with a single running spout is preferred, If unavailable, it is advised to train using cold water, for safety. Also required is a towel, washcloth and a bar of face soap. Individual hotel-sized bars or a pump dispenser is recommended.

Verbal Directions: The individual is instructed to, "Wash your face".

Test Description: This test item is administered to determine individual ability to appropriately wash and dry the face. The position of the hot and cold water faucets is shown and the individual is verbally prompted to begin the task. Modeling and physical guidance may be necessary in regulating the water flow and in squeezing the excess water from the washcloth.

Scoring: The Percent Task Score and Average Independence Score are recorded according to the prompts necessary, as described in the scoring system.

Deodorant Use

Facility: Washroom or bedroom in living area preferred.

Equipment: A container of deodorant (sample sizes acceptable) and a table or stand. Stick and roll-on are easiest to apply. Spray may be used.

Verbal Directions: The individual is instructed to, "Put on your deodorant".

Test Description: This test is administered to determine individual ability to effectively apply deodorant. Before beginning, outer layers of clothing, such as sweaters, are removed. The individual should be wearing one layer of clothing on the upper body (blouse, T-shirt) when beginning test item. A verbal cue is given to begin task. Modeling and physical guidance may be required in positioning deodorant and manipulating the container cap. Perseveration in application and application beyond target area must be monitored and regulated.

Scoring: The Percent Task Score and Average Independence Score are recorded according to the prompts necessary, as described in the scoring system.

Personal Appearance

A. Test Item: Hair Grooming

Facility: Bedroom or washroom in living area preferred.

Equipment: Mirror, individual hair brush and comb/pick are required. Hair fasteners are optional.

Verbal Directions: The individual is instructed to, "Comb (or brush) your hair".

Test Description: This test is administered to determine individual ability to appropriately groom hair. The individual is verbally prompted to begin task. In the case of some curly styles (e.g. Gheri curls), finger picking of hair may be appropriate. Braided hair must be assessed individually; some styles allow for brushing of the perimeter and some are best left undisturbed. Following completion of the task, encourage individual to perform a self check in the mirror.

Scoring: The Percent Task Score and Average Independence Score are recorded according to the prompts necessary, as described in the scoring system.

B. Test Item: Upper Body Appearance

Facility: Bedroom or washroom in living area.

Equipment: Front opening of shirt/blouse and large mirror are required. Identical smocks and shirts may be used.

Verbal Directions: The individual is instructed to, "Button and straighten your shirt".

Test Description: This test is administered to determine individual ability to appropriately fasten and straighten a shirt or blouse. Before beginning, tester or individual unfastens and untucks shirt and unstraightens collar. This task may be done following "Deodorant Use", when clothing is already loosened. The individual is verbally prompted to begin task. Following completion of task, the individual should be encouraged to perform a self-check in the mirror.

Scoring: The Percent Task Score and Average Independence Score are recorded according to the prompts necessary, as described in the scoring system.

C. Test Item: Lower body appearance.

Facility: Bedroom or washroom in living area.

Equipment: Zipper opening pants/skirt, belt, socks/hose and shoes are required. A mirror is needed for self-evaluation.

Verbal Directions: The individual is instructed to, "Straighten your pants (shirt)", and "Straighten your socks (hose) and shoes".

Test Description: This test is administered to determine individual ability to appropriately fasten and straighten pants/skirt, belt, socks/hose and shoes. Before beginning tester or individual unfastens pants/skirt and belt, plus unfastens and removes socks (hose) and shoes. The individual is then verbally prompted to begin task. Modification in scoring is made for elastic waistband pants; straightening the waistband is equivalent to straightening the belt. Following completion of task, the individual should be encouraged to perform a self-check in the mirror.

Scoring: The Percent Task Score and Average Independence Score are recorded according to the prompts necessary, as described in the scoring system.

IV. THE PROJECT TRANSITION CURRICULUM

Introduction

The Project TRANSITION curriculum was developed to address five health-related physical fitness skills and five health-related personal hygiene skills. These ten skills were identified as having functional value for the participants in the Project. The ten skills chosen for training are by no means totally inclusive of fitness and hygiene skills needed in many mentally retarded individuals. Rather, the curriculum is designed so that it could be easily expanded to include additional fitness and personal hygiene skills. The curriculum can be used as a systematic guide using a format that is adaptable to include additional fitness and hygiene skills or skills from other curricular areas.

The curriculum uses a consistent format for easy use. Each area for testing/teaching is divided into: (a) GOAL, (b) SKILL, (c) MATERIALS NEEDED, (d) TEACHING RECOMMENDATIONS, (e) TEACHING SEQUENCE, (f) SUPPLEMENTARY ACTIVITIES, (g) GENERALIZATION IDEAS, and (h) MAINTENANCE IDEAS.

The GOAL is a statement of the overall purpose of any skill. Any SKILL is the specific activitiy used to accomplish a GOAL. The MATERIALS NEEDED include the space, equipment or supplies recommended to test or teach a target skill. The TEACHING RECOMMENDATIONS are specific considerations for testing or teaching a target skill. A TEACHING SEQUENCE is a sequential task analysis of discrete meaningful and measureable components of a targeted skill. Each TEACHING SEQUENCE includes individual steps and related instructional objectives (IOs). The steps are sub-components of the instructional objective. Each step builds on the previous step. The steps are important in directly recording raw data since the check marks on the scoring grid are a reflection of step mastery. Training for independent mastery of the individual steps will move the individual to meeting the requirement of the instructional objective. The instructional objective is the major component within the teaching sequence that is a pre-requisite milestone to the successful completion of any targeted skill.

In the curriculum itself, the new information in each succeeding step is underlined to assist in identifying the next important component of the teaching sequence. Each step is numbered (e.g. 1.2) with the first digit referring to the IO and the second digit referring to the step. In an example, 1.2 would refer to IO 1, step 2. Note that when a step for any reason is not applicable, the entire step should be deleted from the scoring process. An example might be 1.5 in Personal Appearance (hair fasteners). If the individual is not wearing hair fasteners and/or does not need them, the entire step should be eliminated from the scoring process. It is also important to note that the IOs and steps need not be memorized by the teacher. Abbreviated curricula (Appendix A) were developed to assist the tester on the key steps of each skill. In addition, the score sheets for each skill include the steps for the skill and scoring key with the prompting sequence.

The SUPPLEMENTARY ACTIVITIES, MAINTENANCE IDEAS and GENERALIZATION IDEAS are suggested to further enhance each physical fitness and hygiene skill. Their inclusion is toward the end of retaining, expanding and building additional skills.

One example of how the Project TRANSITION curriculum may be expanded involves the 300 yard run/walk. Without question, 300 yards may be substituted with 600 yards or any increased distance in order to individualize the training of cardiorespiratory fitness. The teaching sequence may be changed by merely increasing the distance in both the instructional objectives and individualized steps. In addition, the supplementary activities provided with the 300 yard run/walk will also enhance expansion of cardiorespiratory fitness activities.

An example of expanding the hygiene skill curriculum to meet individual needs could be administering make-up after the face washing skill has become mastered. This activity can be thoroughly developed simply by adding additional instructional objectives and individual steps to the existing face washing skill item.

The number of fitness and personal hygiene skill items provided in the curriculum of Project TRANSITION is limited due to the nature of the research. However, the Project researchers feel very strongly that the systematic design built into this curriculum provides a viable and functional basis with which to further expand activities to meet the additional needs of the individuals using this manual. The PROJECT TRANSITION CURRICULUM therefore can be used as a basis to develop curriculum materials for the mentally retarded in a variety of skill areas.

Physical Fitness Curriculum

A. Cardiorespiratory Endurance

Goal
To improve maximal functioning capacity and endurance of the cardiorespiratory system.

Skill
The individual will use a combination of running and/or walking to cover 300 yards as quickly as possible.

Materials Needed
A distance of 300 yards must be measured off. This may be in an oval, square or rectangular form of varing distances (see Appendix B). The track should have each 50 yards of the run marked. A stopwatch, accurate to seconds, should be used to time the run.

Teaching Recommendations
1. Always perform total body warm-up exercises, including stretching exercises, prior to running. For examples, see Supplemental Activities for Lower Back and Hamstring Flexibility on pages 51-57.

2. All participants should be allowed to practice running with emphasis placed on the concept of pace. Pacing means to run at a speed that requires increased effort, yet exhaustion is not reached and the 300 yards can be completed without stopping.

Teaching Sequence

INSTRUCTIONAL OBJECTIVE 1: COMPLETE 100 YARDS

The individual will run/walk for a minimum of 100 yards.
- 1.1 The individual will run/walk a minimum of 50 yards.
- 1.2 The individual will run/walk a minimum of 100 yards.

INSTRUCTIONAL OBJECTIVE 2: COMPLETE 200 YARDS

The individual will run/walk a minimum of 200 yards.
- 2.1 The individual will run/walk a minimum of 150 yards.
- 2.2 The individual will run/walk a minimum of 200 yards.

INSTRUCTIONAL OBJECTIVE 3: COMPLETE 300 YARDS

The individual will run/walk for 300 yards.
- 3.1 The individual will run/walk a minimum of 250 yards.
- 3.2 The individual will run/walk for 300 yards.

Supplementary Activities

All cardiorespiratory endurance supplementary activities should stress developing increased endurance through progressive activities. A common objective is to increase the time spent on and intensity of continuous activity. As a person becomes physically trained, he/she will be able to expend less effort to do the same amount of physical activity.

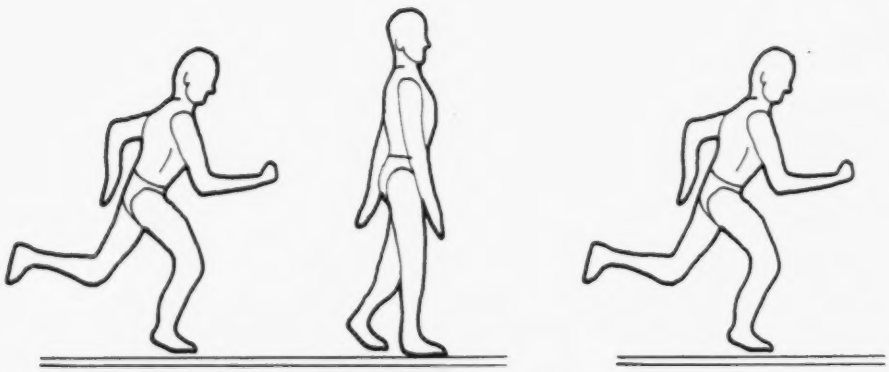
1. Interval Training - Individuals will engage in a series of repeated exercises (e.g. running, swimming, jumping, bench stepping). Five elements comprise the basis of interval programs. These elements are:

    1. Rate and distance of exercise interval.
    2. Number of repetitions during each workout.
    3. Relief interval or the time between work intervals.
    4. Type of activity during relief interval.
    5. Frequency of training per week.

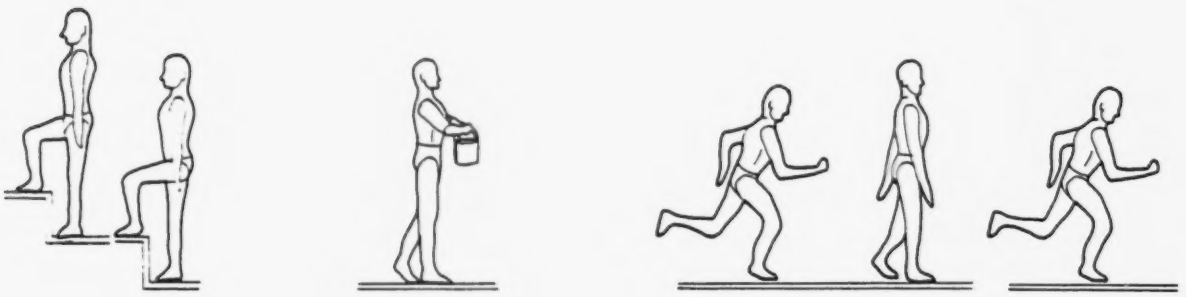
Ideally, participants alternate exercises, and rest intervals, gradually increasing exercise duration and intensity. Interval training should be performed 2 or 3 times a week. An example running interval program follows:

Day 1 *
Run 100 yards in 20 seconds 4 times with 30 seconds rest between trials.
Run 200 yards in 50 seconds 5 times with 1 minute rest between trials.
Day 2
Run 300 yards in 90 seconds 2 times with 2 minutes rest between trials.
Run 100 yards in 20 seconds 6 times with 30 seconds rest between trials.
Day 3
Run 100 yards in 20 seconds 6 times with 30 seconds rest between trials.
Run 400 yards in 2 minutes 2 times with 2 minutes rest between trials.

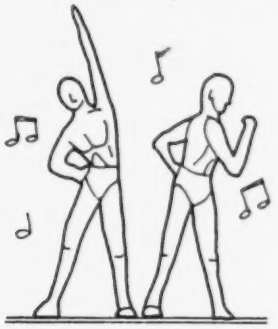
* Walk during rest interval



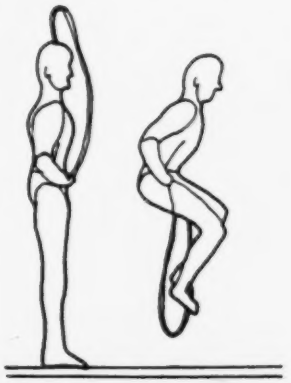
2. Circuit Training - Individual will engage in a series of different fitness tasks at several stations, moving from station to station after a specified amount of time. An example may include: Station One - Walking up and down stadium bleachers; Station Two - Carrying paint cans with sand in them; Station Three - Alternating running and walking (interval training).



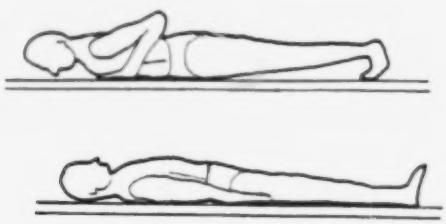
3. Aerobics - Individual will engage in a progressive physical conditioning program which uses various physical activities to stimulate activity of the heart and lungs for a specific time period. This is a current popular means of exercising. Activities often include jumping, dancing, stretching and running in place to music. The use of lively, exciting music may help to motivate many participants.



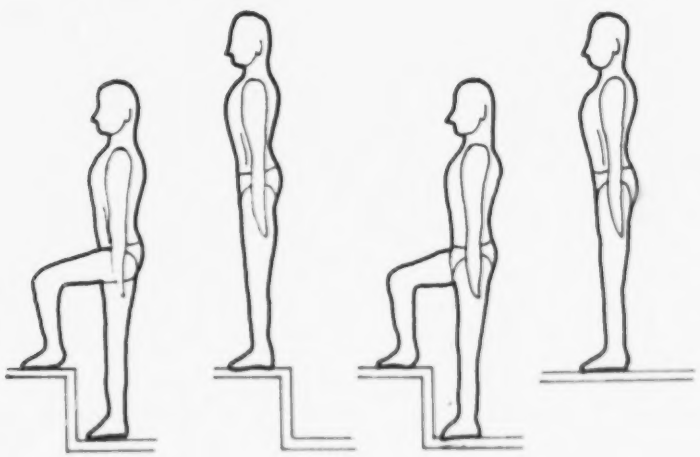
4. Rope Jumping - Individual will engage in a progressive program of increasingly sustained rope jumping.



5. Astronaut Drills - Individual will engage in a series of cues "run, front, back" (running in place, lying on stomach, lying on back). Cues are given in various orders to challenge participant to persist in continuous motion.

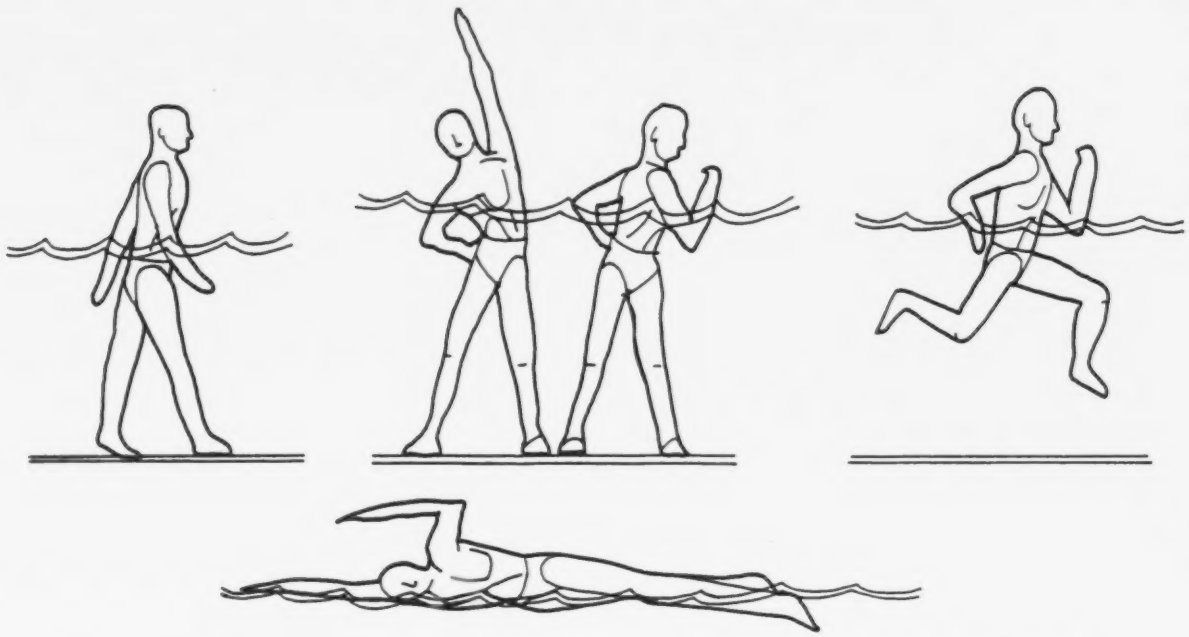


6. Bench Stepping - Using a bench approximately 18 inches high, the individual will maintain a predetermined cadence using sequential stepping as follows: one foot up, second foot up, first foot down, second foot down. The height of the bench can vary with the participant's height, strength and flexibility. The cadence will vary depending on the individual's level of fitness and length of bench stepping time chosen.



7. Stationary Bicycle - Individual will engage in a progressive program of increasingly sustained time riding a stationary bike. If the stationary bicycle has the potential for increased resistance, then a gradual and progressive increase in resistance may be included.

8. Swimming - Individual will engage in a sustained program of movement in the water. The movement can be walking, running, exercising or swimming.



Generalization Ideas

Use a variety of areas to perform the cardiorespiratory training. These areas could include running outside in marked off level grassy areas; using available community running tracks or jogging trails; using various indoor gymnasium-type facilities. Variations can also be made on the instructor and time of training. It is very important to attempt to use community recreation facilities to encourage training in the most appropriate and natural environment.

Maintenance Ideas

Maintaining the same level of cardiorespiratory fitness requires an effort of two training sessions per week. Once the novelty of the training programs wears off, it may become difficult to motivate the person to work hard. Intermittent reinforcement strategies help. But you can also vary the type of activity used. Various types of suggested activities are listed in the supplementary activities section. For example, by using continuous jogging in the first training session of the week, interval training in the second session of the week, and an exercise bicycle in the third session of the week, you can vary the type of training and continue to accomplish the objectives of the American College of Sports Medicine (1980).

B. Upper Body Strength/Endurance

Goal

To improve upper body muscular strength and endurance required in lifting, carrying and a variety of self-care and vocational skills.

Skill

The individual will sit on a mat, then lie back so that a bar can be placed above and directly over the highest part of the chest. Using an overhand grip the individual will grip the bar with hands shoulder width apart. The individual then raises the bar directly overhead by fully extending both arms. The individual then gradually lowers the bar to chest height. The lifting sequence with the bar should be repeated eight times with as much weight as possible.

Materials Needed

Gymnasium mats should be laid out for the participants to lie on. Any combination of individual mats are sufficient as long as it forms an area approximately 3 feet wide, 7 feet long and 10 inches high. Two standing bar guides are used to aid the individual in maintaining stability of the lifted bar and weight. The guides are on 24 inch platforms with 1 1/2 inch wide vertical columns or tracks within which the bar moves. Also, steel pins are employed to keep the bar from descending below the starting position. A full description of the bar guides is located in Appendix C.

Two bars are used. The first bar is a wooden dowel or broomstick which is approximately 6 feet long and a diameter of 1 inch. This bar should weigh 1 pound or less. The second bar is a standard weight lifting barbell 5 or 6 feet long with a diameter of 1 1/4 inch. Metal washers 2 inch in diameter should be welded to the inside weight stops for added stability.

Assorted weight plates are also required. These include 1 1/4, 2 1/2, 5, 7 1/2, 10, 15, 20, 25 pound plates. Weight collars (2 1/2 pounds each) will also be needed.

Teaching Recommendations

1. Individuals should always perform warm-up exercises involving upper body muscles before weight lifting. Examples include arm circles, trunk twists, trunk bend-overs, shoulder shrugs and imitation of the lifting motion.

2. A spotter should always be positioned standing over the head of the lifter, ready to assist or assume control of the bar if necessary.

3. Both weight collars should be checked for tightness prior to each lift.

4. During both testing and training, minimal resistance should be used initially then gradually increased. This will prepare target muscles for the gradual application of more resistance.

5. Each lifting repetition should be performed through the full range of motion.

6. Encourage each individual to exhale while raising the bar and to inhale while lowering the bar.

7. Encourage each individual to bend the knees at approximately 45 degrees by placing each foot flat on the ground (or mat).

8. The height of the bar at the starting position should be approximately three inches above the highest part of the chest.

9. Encourage each individual to raise the bar in a two count motion and lower it in a four count motion (hopefully developing a rhythm and avoiding jerky movements).

10. A towel should be kept available to wipe the bar free from perspiration. This should be done as often as necessary.

11. Do not allow the individual to arch the back while lifting.

12. Do not allow the individual to lift the head when lifting the bar.

13. Maintaining upper body strength and endurance requires participation in a minimum of two training sessions per week.

14. The individual's one repetition maximum is determined by identifying the maximum amount of weight that can be lifted through one bench press trial.

15. Training sessions may include sets of high repetitions (10 to 15) with 40 to 50% of the individual's one repetition maximum. Also, sets of low repetitions (2 to 4) may be done with 80 to 90% of the individual's one repetition maximum.

16. Training should be performed three times a week on non-consecutive days to improve performance.

17. When an individual can perform 15 repetitions with a certain weight, the weight should be increased by 10%.

Teaching Sequence

INSTRUCTIONAL OBJECTIVE 1: **LIFTING POSITION**

The individual will sit upright on the mat. and then assume a back lying position with the head in front of the bar guides. After the lifting bar is in position, the individual will be positioned with the mid-chest directly under the bar.

1.1 The individual will sit upright on the weight lifting mat.

1.2 The individual will sit upright on the mat, then assume a back lying position with the head in front of the bar guides.

1.3 The individual will sit upright on the mat, then assume a back lying postition with the head in front of the bar quides. After the lifting bar is in position, the individual will be positioned with the mid-chest directly under the bar.

INSTRUCTIONAL OBJECTIVE 2: **GRASP, LIFT, RETURN**

The individual will assume a back lying position directly under the bar. Using an overhand grip, grasp the bar with hands shoulder width apart, lift the bar directly over the chest by fully extending the arms, then lower the bar gradually to starting position.

2.1 The individual will assume a back lying position with the bar over mid-chest and using an overhand grip, grasp the bar with one hand.

2.2 The individual will assume a back lying position with the bar over mid-chest, using an overhand grip, grasp the bar with both hands shoulder width apart.

2.3 The individual will assume a back lying position with the bar over mid-chest, using an overhand grip, grasp the bar with both hands shoulder width apart, lift the bar directly over chest by fully extending arms. (Optimally in a two count motion.)

2.4 The individual will assume a back lying position with the bar over mid-chest, using an overhand grip, grasp the bar with both hands, lift the bar directly over chest by fully extending arms, then lower the bar gradually to starting position.

INSTRUCTIONAL OBJECTIVE 3: **ENDURANCE LIFTING**

The individual will assume a back lying position on the mat, with the bar over mid-chest. Using an overhand grip, grasp the bar with both hands shoulder width apart, lift the bar directly over the chest by fully extending the arms, and gradually lower the bar. Repeat this cycle eight times consecutively.

3.1 The individual will assume a back lying position on the mat, with bar directly over mid-chest. Using an overhand grip, grasp the bar with hands shoulder width apart, lift the bar directly over the chest by fully extending the arms and gradually lower the bar to starting position two times consecutively.

3.2 The individual will assume a back lying position on the mat, with bar directly over mid-chest. Using an overhand grip, grasp the bar with hands shoulder width apart, lift the bar directly over the chest by fully extending the arms and gradually lower the bar to starting position four times consecutively.

3.3 The individual will assume a back lying position on the mat, with bar directly over mid-chest. Using an overhand grip, grasp the bar with hands shoulder width apart, lift the bar directly over the chest by fully extending the arms and gradually lower the bar to starting position six times consecutively.

3.4 The individual will assume a back lying position on the mat, with bar directly over mid-chest. Using an overhand grip, grasp the bar with hands shoulder width apart, lift the bar directly over the chest by fully extending the arms and gradually lower the bar to starting position eight times consecutively.

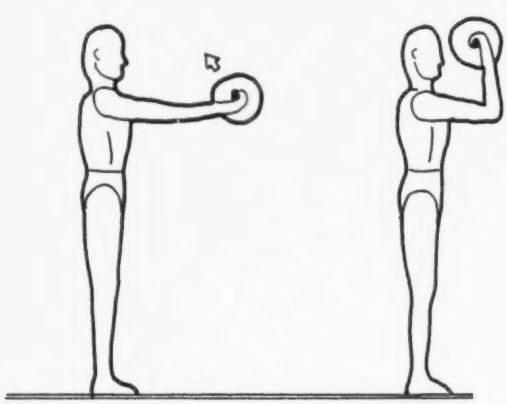
Supplementary Activities

1. Functional Carrying Activities -
    a. Cinder blocks could be carried from one location to another.
    b. Paint cans filled with sand or gravel of various weight can be moved.
    c. Lumber of various lengths and widths can be picked up and carried from one location to another.
    d. Boxes of books or papers can be carried from one location to another.
    e. Laundry bags can be carried or loaded into trucks.
    f. Garbage cans of various sizes and weight can be filled with paper, sand or gravel and carried from one location to another.
    g. In all lifting activities the individual should bend with their knees, not the back. Objects should be kept close to the body and objects should be lifted only chest high.

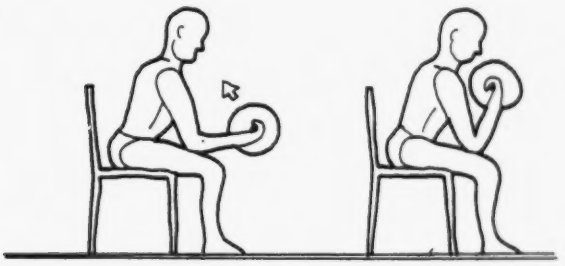
2. Barbell/dumbbell activities can also be used. One should consult a weight training manual for specific exercises. The examples listed below are from E. R. Berger (1984), *Introduction to weight training*, Englewood Cliffs: Prentice Hall, Inc.

All activities should progress toward 10 repeated trials (repetitions), beginning with minimal weight and increasing the weight as tolerated. Encourage regular breathing during the lifting activity (discourage breath holding). These activities are grouped by the primary muscle groups.

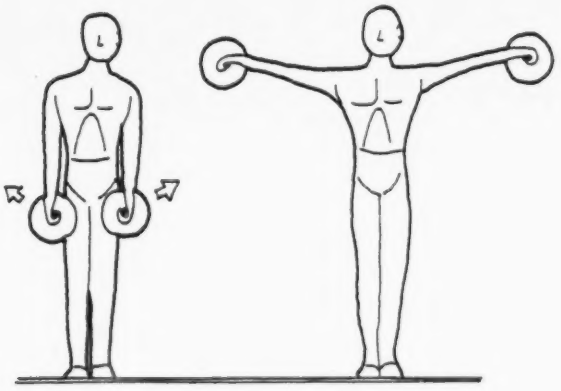
    a. Barbell Curl - Start in a standing position with arms straight out in front of body. Hold barbell with an underhand grip, shoulder width apart. Flex arms completely and then lower to a starting position. Keep back straight and upper arms stationary while lifting.



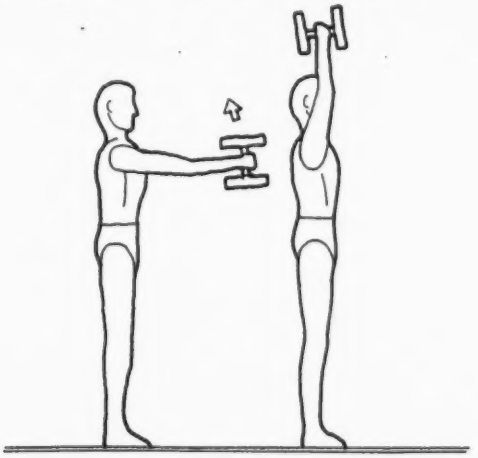
b. One Arm Dumbbell Curl - Sit on a chair with dumbbell held in one hand. Lean over, brace the lifting arm against thigh. Alternately flex and extend the elbow. Exercise the opposite arm in the same way.



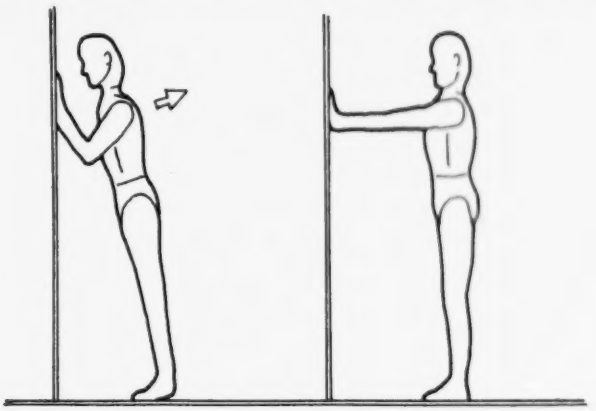
c. Lateral Raise - While standing with dumbbells held at sides, palms facing in and arms straight, raise arms to the sides until the weights are just above head height and lower.



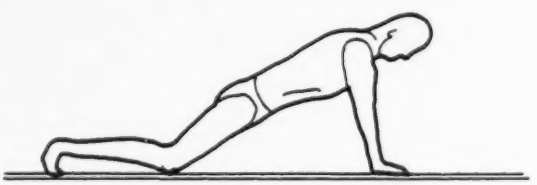
d. Forward Raise - While standing with dumbbells held in front, palms facing in, and arms straight, raise arms forward overhead and lower.



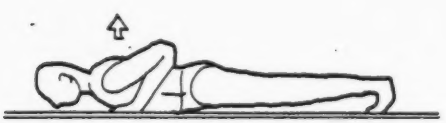
e. Wall Push-ups - Begin in standing position, feet 12 inches from wall, hands flat on wall and shoulder width apart. Keeping body straight and nose close to wall, push until arms are straight and then return to starting position.

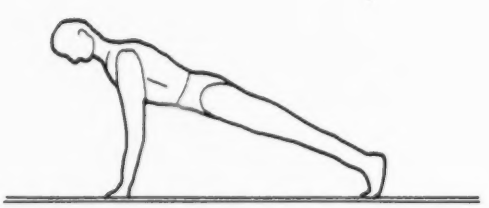


f. Modified Push-ups - Begin in face down position, hands flat on floor, and a little wider than shoulder width. Keep knees on the floor and push upper body up. Push until arms are straight and then lower.

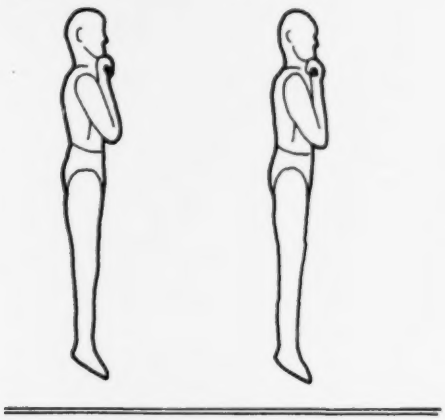


g. Push-ups - Begin in face down position feet together, hands flat on floor, under shoulders and a little wider than shoulder width. Keep body straight. Push until arms are straight and then lower.

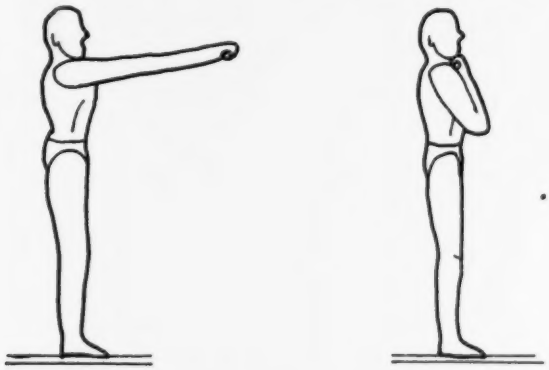




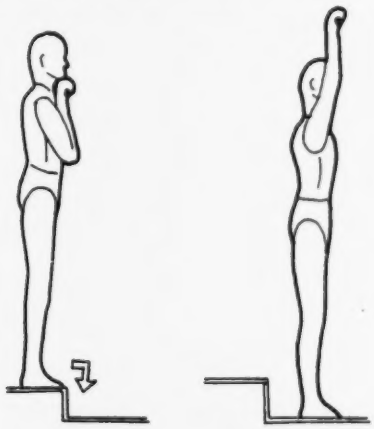
h. Flexed Arm Hang - Place hands on overhanging bar with palms facing away from body. Flex arms at the elbow. Start hang with chin above bar level, body straight, feet off floor, holding this position. Then try the exercise with palms facing toward the body.



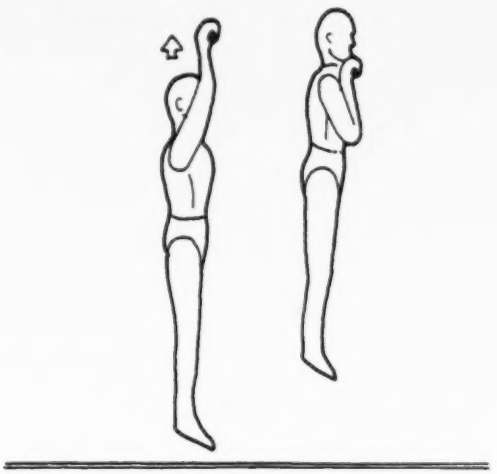
i. Modified Pull-ups - While standing place outstretched hands with palms facing away from body on bar. Pull up until chin is close to bar and return to starting position. Body may slant away from bar, feet may remain on floor. Then try this exercise with palms facing toward body.



j. Negative Pull-up - While standing on bench or step with chin above bar level, place hands on horizontal bar. Step off the bench and <u>slowly</u> lower body until arms are straight and feet return to the floor.



k. Pull-ups - While standing, place hands on horizontal bar, palms facing away from body. Pull up until chin is above bar level. Return to starting position. Repeat. Feet should remain clear of floor. Then try exercise with palms facing toward body.



Generalization Ideas

Use a variety of areas to do the upper body strength and endurance training. Varying the instructor and time of training may add to generalization. When a high degree of competence in the skill has been reached, access community facilities to train with various types of exercise equipment (e.g. weight machines, free weights). However, the most natural way to generalize this training is to incorporate lifting of heavy "every-day" objects that may be part of a vocational setting. These include, as examples, paint cans, garbage cans, heavy boxes. and buckets of water. Additional suggestions are made in the supplementary activities section.

Maintenance Ideas

Maintaining upper body strength and endurance reguires an effort to get three training sessions per week. For those participants that have a high degree of competency, the intensity and duration of training can be modified. Practice in some sessions with a low amount of weight (40-50% of maximum) and do many repetitions (10-15) and vary this with a high amount of weight (80-90% maximum) and few repetitions (2-4). Intermittent positive reinforcement to maintain motivation is a key to continued efforts.

C. Lower Back and Hamstring Flexibility

Goal

To improve posture (sitting and standing) and quality of all gross motor skills involving low back and posterior leg muscles. To combat the effects of prolonged sitting, lying down and general inactivity (reduce risk of permanent shortening of muscles).

Skill

Following a gradual warm-up the individual will sit with legs fully extended, feet slightly apart. The feet will be placed flat against the sit and reach box. The individual will extend the arms forward, with hands on top of each other, reaching directly forward (palms down) in a slow smooth motion as far as possible and held for one second.

Materials Needed

A sit and reach box as described in Appendix D . Gymnasium mats (approximately 4' X 6').

Teaching Recommendations

1. Warm-up flexibility activities (e.g. toe touches, reach for the sky and hurdler's stretch) should always be performed for approximately five minutes prior to this activity.

2. Individuals should never be allowed to perform ballistic style, bouncing, jerking movements when stretching.

3. Flexibility activities can be combined with relaxation and breathing techniques.

4. Start flexibility activities with large muscle groups (legs, lower back, trunk) and proceed to smaller muscles like the shoulders and arms.

5. Be careful that the individual never hyperextends the joints. This can be a particular problem with those individuals with poor muscle tone (e.g. Down Syndrome).

6. Combine flexibility activities with rhythmic activities or music when possible.

7. Stress gradual improvement in flexibility activities.

8. The stretched position should be held for at least five seconds. Gradually work on lengthening the time in the stretched position.

Teaching Sequence

INSTRUCTIONAL OBJECTIVE 1: **UPRIGHT FLOOR SITTING**

The individual will assume an upright sitting position with legs straight, head erect, back straight, legs extended, feet against the sit and reach box, shoulders rotated back, hands on the floor with the arms supporting the trunk.

1.1 The individual will assume an upright sitting position on the floor with legs straight, head erect, back straight, shoulders rotated back, hands on the floor with the arms supporting the trunk.

1.2 The individual will assume an upright sitting position on the floor with legs straight, feet against the sit and reach box, head erect, back straight, shoulders rotated back, hands on the floor with the arms supporting the trunk.

INSTRUCTIONAL OBJECTIVE 2: **FORWARD LEAN**

The individual will assume a sitting upright position on the floor, legs straight, feet against the sit and reach box, neck flexed, back rounded, shoulders rotated forward, and elbows flexed with hands resting on knees.

2.1 The individual will assume an upright sitting position on the floor with trunk erect, legs fully extended, feet against the sit and reach box, and arms at sides (no arm support).

2.2 The individual will assume an upright sitting position on the floor, legs straight, feet against the sit and reach box, neck flexed, shoulders rotated forward, and arms at sides.

2.3 The individual will assume an upright sitting position on the floor, legs straight against the sit and reach box, neck flexed, back rounded, shoulders rotated forward, and arms resting at their sides.

2.4 The individual will assume an upright sitting position on the floor, legs straight, feet against sit and reach box, neck flexed, back rounded, shoulders rotated forward, and elbows flexed with hands resting on knees.

INSTRUCTIONAL OBJECTIVE 3: **HANDS ON THE BOX**

The individual will assume an upright sitting position on the floor with legs fully extended, feet against the sit and reach box, neck flexed, back rounded, shoulders rotated forward, both arms extended with hands overlapped (palms down) and touching the top of the sit and reach box.

3.1 The individual will assume an upright sitting position on the floor with legs fully extended, feet against sit and reach box, neck flexed, back rounded, shoulders rotated forward, and two arms extended with one hand open (palm down) and touching the top of the sit and reach box.

3.2 The individual will assume an upright sitting position on the floor with legs fully extended, feet against the sit and reach box, neck flexed, back rounded, shoulders rotated forward, both arms extended with hands overlapped (palms down) and touching the top of the sit and reach box.

INSTRUCTIONAL OBJECTIVE 4: **MAXIMUM REACH**

The individual will assume an upright position with legs fully extended, and feet flat against sit and reach box. The individual will extend the arms forward, with hands on top of each other, touching the top of the sit and reach box (palms down) in a slow smooth motion as far as possible. Hands are held for one second at the maximal stretch point. This procedure should be repeated for three trials. (Check to make sure knees remain extended.)

4.1 The individual will assume an upright position with legs fully extended, feet flat against sit and reach box. The individual will extend the arms forward, with hands on top of each other, reaching directly forward (palms down) in a slow smooth motion as far as possible. Hands are held for one second at the maximal stretch point. (Check to make sure knees remain extended.)

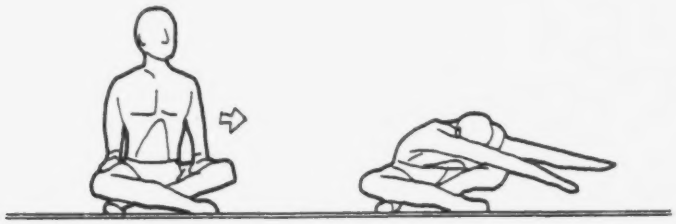
Please note: The trial should be repeated an additional two times.

Supplementary Activities

1. Toe Touches (sitting, legs together) - In a seated position, legs straight out in front, lean forward at the waist, reaching for toes and hold for 10 seconds.

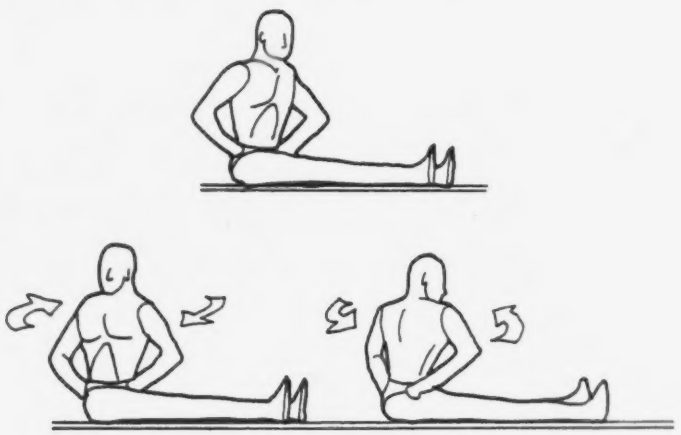
2. Toe Touches (sitting, legs apart) - In a seated position, legs straight out and apart, lean at the waist, reaching out to other foot and lowering face to legs. Alternate legs, holding for 10 seconds.

3. Cross-sitting Reach - Starting in a cross-legged sitting position with hands on hips, slowly reach arms forward and to the side lowering head while reaching. Alternate sides.



4. Lateral Trunk Bending - From a cross-legged sitting position with hands clasped behind the head or resting on shoulders, slowly bend trunk to one side, keeping elbows back. Then stretch to other side.

5. Windshield Wipers - Start with a sitting position on floor, legs straight in front, and hands on hips. Twist as far as possible to the right. Repeat to the left. Then alternate in smooth and continuous motion. Repeat with arms stretched above head.

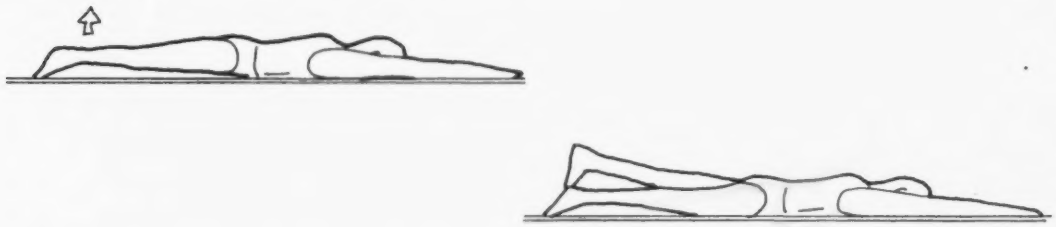


6. Half-rolling - Start from a sitting position with the knees pulled to the chest. Roll backwards with a rounded back and return rolling to a sitting position.

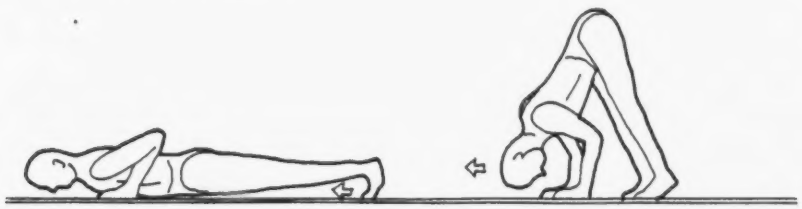
7. Pelvic Tilt - Start in a back lying position with knees off the floor, heels apart, and knees and toes touching. Squeeze abdominals and gluteal muscles (buttocks) to flatten lower back to floor. Slowly relax and return to starting position after holding for 10 seconds.

8. Back Leg Over - Start in a back lying position with arms at sides and on the floor. Raise legs over head together and stretch them backward as far as possible trying to touch toes to the floor.

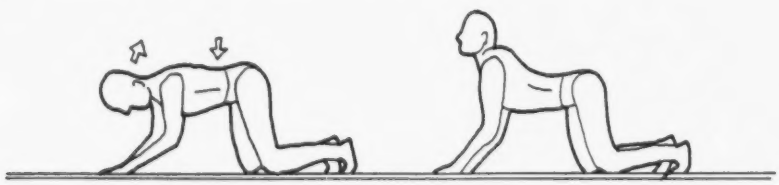
9. Thigh Lift - Start in a front lying position, lift one extended leg, return and repeat with other leg. Then try both legs simultaniously.



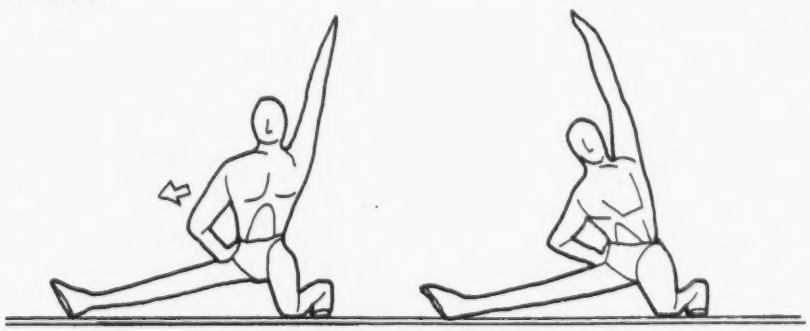
10. Walk-ups - Start in a push-up position, keeping hands in place, use short steps to walk the feet up as close as possible to the hands. Then "walk" hands forward until the starting position is reached.



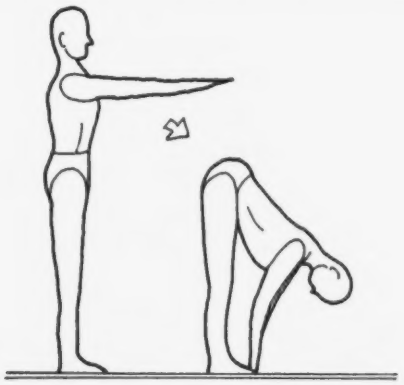
11. Flexible Back - Kneeling on hands and knees, curve lower back by stretching abdominals and raising head up then arching back as much as possible in a slow continuous movement. After returning to the starting position raise the head high into the air.



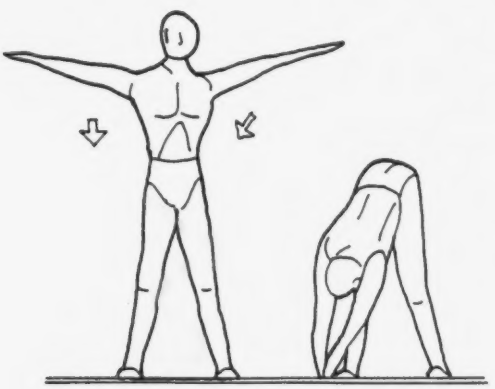
12. Kneeling Side Bend - Start from kneeling on the left knee with right leg extended to the side. Raise left arm above head while right hand is placed on the hip. Bend trunk toward the extended leg and return to starting position. Reverse the action on the other side.



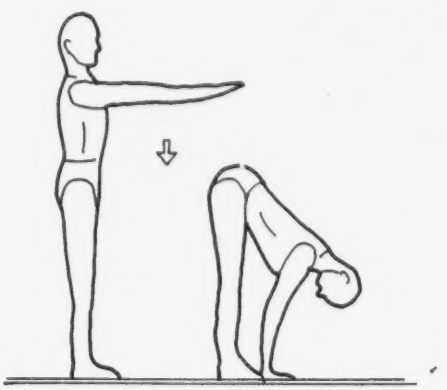
13. Toe Touches (feet together) - Standing, feet together, bend forward at waist, reaching toward toes with both hands and hold position for 10 seconds.



14. Toe Touches (feet apart) - Standing, feet greater than shoulder width apart, arms out at the side, and bend forward at waist. Reach for right toes with left hand for 10 seconds and reach for left toes with right hand for 10 seconds.



15. Floor Touch (feet together) - Standing with feet together bend forward at the waist reaching for floor, and hold position for 10 seconds.



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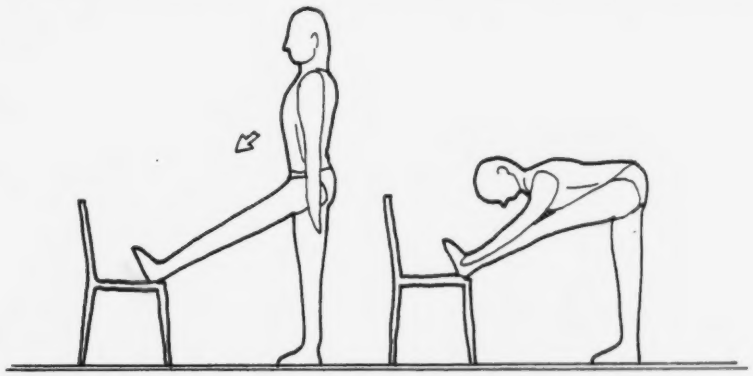
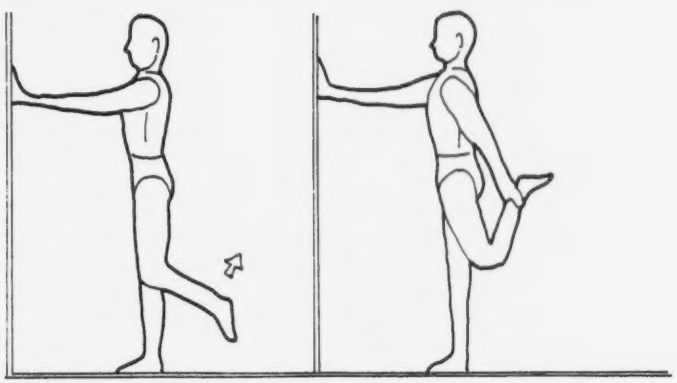
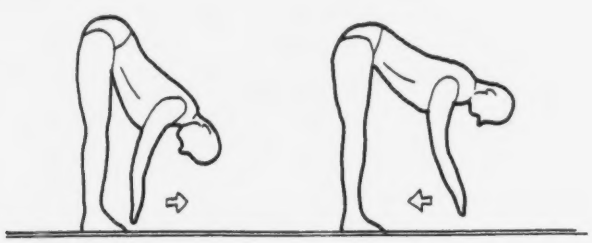
16. Low Back and Posterior Thigh Stretch (alternate placing of foot on chair) - Standing, place heel of foot on seat of chair keeping leg straight. Bend at waist reaching for ankle and hold for 10 seconds. Repeat with alternate leg.



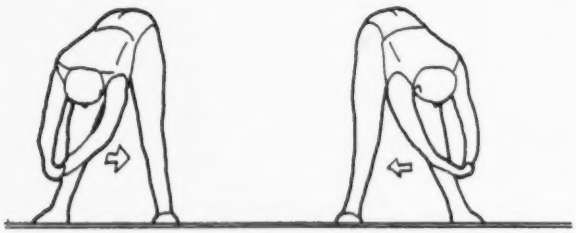
17. Thigh Stretch - While standing on one foot and holding an upright support (wall, bar, chair), bring the other foot up toward the buttocks until the ankle can be grasped. Then pull the ankle gradually toward the buttocks, stretching the front portion of the thigh.



18. The Bell - Stand with feet apart and bend over at waist to touch floor. Swing extended arms and trunk forward and backward. The swing of the arms helps to raise and lower the upper part of the body.



19. Twister - Standing, link fingers of both hands and bend forward at the waist, letting arms swing loosely. Begin walking forward, swinging extended and loose arms to right and left.



Generalization Ideas

Use a variety of areas for the flexibility training. This training can take place virtually any place that has a flat area to sit down. Varying the time and the leader of instruction can further generalize the use of the task. Practice within the natural living environment would include bending down activities and reaching or stretching up for objects. Flexibility activities, as those listed in the supplementary activities section, can be incorporated into the individual's daily work schedule. This is of particular importance to those individuals who are very sedentary or sit for long periods of time in vocational and/or daily living environments.

Maintenance Ideas

Maintaining good flexibility requires repeated and consistent practice in flexibility exercises. These activities need to be performed at least two times per week. However, since no special equipment or space is needed for flexibility exercises, it would be better to practice the exercises on a daily basis. Incorporating the exercises or activities into break periods in the working day is a very useful and logical time to practice the flexibility activities to maintain increased flexibility. Whenever the response occurs, pairing intermittent positive reinforcement with the activity will support continued maintenance of the flexibility.

D. Abdominal Strength/Endurance

Goal

To improve mid-torso posture and decrease risk of low back problems.

Skill

The individual will sit with knees flexed, feet flat on the floor (anchored, see Appendix E) approximately 12 to 18 inches from the buttocks and hands crossed over the chest. The individual will then gradually lower the trunk to the floor and return to sitting position. The individual will perform as many repetitions as possible in 60 seconds.

Materials Needed

Large gymnasium mats, (approximately 4' X 6') should be used to insure safety while doing the exercise. Boards equipped with straps for anchoring the feet can be utilized.(See Appendix E)

Teaching Recommendations

1. Encourage individual to keep chin to chest while performing sit-ups.
2. Discourage individual from performing whipping or ballistic movements of the head or body while performing sit-ups.
3. Encourage individual to sit-up in a straight forward motion, not leaning or favoring one side.
4. Encourage individual to continue doing sit-ups until the time limit (60 seconds) has been reached.
5. If an individual has difficulty maintaining knees in a flexed position, a small bolster may be placed under the knees.
6. The participant may not use elbows in any manner to assist in sitting up.

Teaching Sequence

INSTRUCTIONAL OBJECTIVE 1: **SEATED, NEGATIVE SIT-UP**

The individual will sit on a mat, with knees flexed, feet flat on the floor and anchored approximately 12 to 18 inches from the buttocks with arms extended forward. The individual will gradually lower backwards to a lying position while maintaining arms in a forward position (the person can be assisted in the return to a sitting position).

1.1 The individual will sit on the exercise mat.

1.2 The individual will sit on the exercise mat, flex knees and place feet flat on the floor with feet anchored 12 to 18 inches from the buttocks.

1.3 The individual will sit on the exercise mat, flex knees and place feet flat on the floor with feet anchored 12 to 18 inches from the buttocks, and will extend the arms forward.

1.4 The individual will sit on the exercise mat, flex knees and place feet flat on the floor with feet anchored 12 to 18 inches from the buttocks, and will extend the arms forward and will gradually recline the trunk to a lying position while maintaining arms in a forward position.

INSTRUCTIONAL OBJECTIVE 2: **SIT-UP, ARMS EXTENDED**

The individual will sit with knees flexed, feet flat on the floor and anchored approximately 12 to 18 inches from the buttocks, and arms extended forward. The individual will recline the trunk to a lying position and then return to a sitting position.

2.1 The individual will sit with knees flexed, feet flat on the floor and anchored approximately 12 to 18 inches from buttocks, with arms extended forward. The individual will gradually recline to a lying position and lift head and shoulders off the mat.

2.2 The individual will sit with knees flexed, feet flat on the floor and anchored approximately 12 to 18 inches from buttocks, with arms extended forward. The individual will gradually recline to a lying position and lift head and shoulders off the mat and trunk off the mat.

2.3 The individual will sit with knees flexed, feet flat on the floor and anchored approximately 12 to 18 inches from buttocks, with arms extended forward. The individual will gradually recline to a lying position and then lift head and shoulders off the mat and trunk off the mat and return to the original sitting position.

INSTRUCTIONAL OBJECTIVE 3: **SIT-UP, ARMS CROSSED**

The individual will sit with knees flexed, feet flat on the floor and anchored approximately 12 to 18 inches from the buttocks with hands crossed over the chest. The individual will qradually lower trunk to the floor and return to original sitting position. The individual will repeat as fast as possible for 60 seconds.

3.1 The individual will sit with knees flexed, feet flat on the floor and anchored approximately 12 to 18 inches from the buttocks. The individual will cross arms over chest.

3.2 The individual will sit with knees flexed, feet flat on the floor and anchored approximately 12 to 18 inches from the buttocks. The individual will cross arms over chest, gradually recline to lying position.

3.3 The individual will sit with knees flexed, feet flat on the floor and anchored approximately 12 to 18 inches from the buttocks. The individual will cross arms over chest, gradually recline to lying position and raise the head and shoulders up.

3.4 The individual will sit with knees flexed, feet flat on the floor and anchored approximately 12 to 18 inches from the buttocks. The individual will cross arms over chest, gradually recline to lying position, and raise the head and shoulders and trunk off the mat.

3.5 The individual will sit with knees flexed, feet flat on the floor and anchored approximately 12 to 18 inches from the buttocks. The individual will cross arms over chest, gradually recline to lying position, and raise up to the original sitting position. The individual will repeat as fast as possible for 30 seconds.

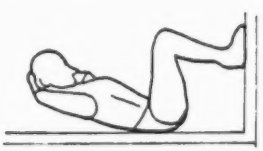
3.6 The individual will sit with knees flexed, feet flat on the floor and anchored approximately 12 to 18 inches from the buttocks. The individual will cross arms over chest, gradually recline to lying position, and raise up to the original sitting position. The individual will repeat as fast as possible for 45 seconds.

3.7 The individual will sit with knees flexed, feet flat on the floor and anchored approximately 12 to 18 inches from the buttocks. The individual will cross arms over chest; gradually recline to lying position, and raise up to the original sitting position. The individual will repeat as fast as possible for 60 seconds.

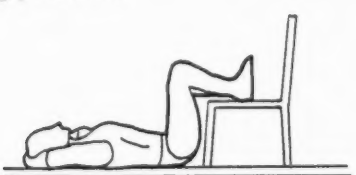
Supplementary Activities

1. Upper Body Lift - Starting in back lying position, knees flexed, feet flat on floor and arms extended overhead. Slowly raise arms forward toward knees, raising upper back off floor, holding momentarily, lowering slowly to starting position.

2. Crunches - Start in back lying position, knees flexed, feet flat on wall and hands clasped behind head. Slowly raise head and shoulders, chin to chest, until six inches off the floor. Hold momentarily, lowering to starting position.



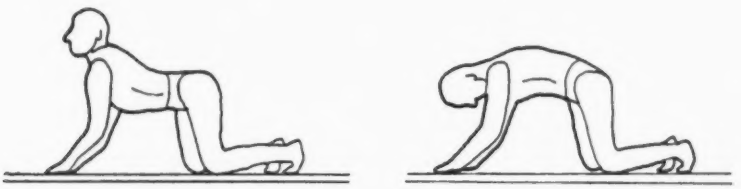
3. Crunches with Chair - Start in back lying position, knees flexed, lower legs positioned on chair and hands clasped behind head. Slowly raise head and shoulders, chin to chest, until six inches off the floor. Hold momentarily, lowering to starting position.



4. Alternate Knee Bends - Start in back lying position, legs extended, knees straight and arms down at side. Flex one leg and knee, grasp with both hands and bring to chest. Hold knee and release slowly to starting position. Alternate legs.

5. Knee to Chest Bends - Start in back lying position, legs extended, knees straight and arms down at side. Flex knees, grasping knees with arms and bringing to chest. Hold knees and release slowly to starting position.

6. Cat Stretch - Start with hands and knees on floor, back flat and head looking up. With a slow movement, lower head and arch back as high as possible. Keep abdominal muscles tight.



Generalization Ideas

Use a variety of areas to do the abdominal endurance skill training (flexed knee sit-up). The activity can easily be performed in a living area. Vary the time of day and the instructor to enhance generalization of this functional skill. Access community facilities to encourage training in other locales. Incorporate the supplementary activities into the training sessions to increase the exercises that assist in developing abdominal endurance.

Maintenance Ideas

Maintaining attained levels of abdominal endurance requires training sessions at least two times per week. Intermittent positive reinforcement of the completed sit-up whenever it occurs will enhance the maintenance of the skill. If appropriate, encourage self-recording and evaluation to assist in the maintenance of abdominal endurance.

E. Grip Strength

Goal

To increase the ability to grip and manipulate objects, tools and utensils for performance in a wide variety of vocational and self-help skills.

Skill

The individual will compress a vigorimeter syringe bulb, placed in the palm of the hand, with maximum contractions each time. This should be done twice, alternating hands.

Materials Needed

A "vigorimeter" hand dynamometer registering in kpa (pressure measurement) should be used. Also medium and large sized bulbs are needed. A metric measuring tape is required to measure the participant's hand circumference to determine the correct size for each individual. (see Appendix F)

Teaching Recommendations

1. Participants should try to relax their hands and fingers before testing.

2. Use a metric measuring tape to measure the hands of the individual. The hands are measured by wrapping the tape across the outside of the individual's hand approximately half way between the fingertips and the wrist. The tape is then drawn across the middle of the palm (bisecting the palm). The end of the tape overlaps the remaining tape and a measurement is taken at that point. Individuals whose hand measurement is smaller than 19 centimeters should use the medium sized bulb. Individuals whose hand measurement is 19 centimeters or larger should use the large sized bulb.

3. Allow at least 15 seconds rest between trials.

4. The individual can move hand and arm while squeezing, but no contact can be made against the body or any object.

5. After the maximum contraction is performed, the amount registering on the scale of the dynamometer should be recorded.

6. The highest reading achieved of the three trials per hand should be recorded.

Teaching Sequence

INSTRUCTIONAL OBJECTIVE 1: **RIGHT HAND GRIP**

The individual will close the fingers and thumb of the right hand around the syringe bulb and perform three maximum contractions of the hand, with 15 seconds rest between trials.

1.1 The individual will turn the right hand, allowing the palm to face up.

1.2 The individual will turn the right hand, allowing the palm to face up, extend the thumb and fingers, opening up the palm area.

1.3 The individual will turn the right hand, allowing the palm to face up, and allow the device to be placed in the palm with the nozzle pointing between the thumb and first finger.

1.4 The individual will turn the right hand, allowing the palm to face up, and allow the device to be placed in the palm with the nozzle pointing between the thumb and first finger. The thumb and fingers are then closed around the device.

1.5 The individual will turn the right hand, allowing the palm to face up, and allow the device to be placed in the palm with the nozzle pointing between the thumb and first finger. The thumb and fingers are then closed around the device. A maximum contraction is performed by squeezing the device and then relaxing the hand.

1.6 The individual will turn the right hand, allowing the palm to face up, extend the thumb and fingers, opening up the palm area and allow the device to be placed in the palm with the nozzle pointing between the thumb and first finger. The thumb and fingers are then closed around the device. A maximum contraction is performed by squeezing the device and relaxing the hand. This is repeated for three trials.

INSTRUCTIONAL OBJECTIVE 2: **LEFT HAND GRIP**

The individual will close the fingers and thumb of the left hand around the syringe bulb and then perform three maximum contractions of the hand, with 15 seconds rest in between trials.

2.1 The individual will turn the left hand, allowing the palm to face up.

2.2 The individual will turn the left hand, allowing the palm to face up, extend the thumb and fingers, opening up the palm area.

2.3 The individual will turn the left hand, allowing the palm to face up, and allow the device to be placed in the palm with the nozzle pointing between the thumb and first finger.

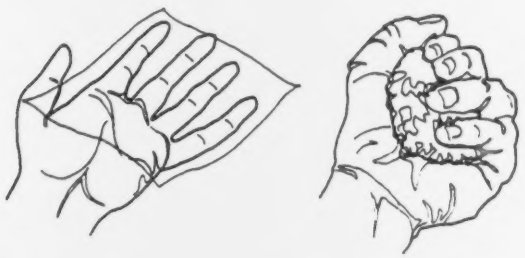
2.4 The individual will turn the left hand, allowing the palm to face up, and allow the device to be placed in the palm with the nozzle pointing between the thumb and first finger. Then close the thumb and fingers around the device.

2.5 The individual will turn the left hand, allowing the palm to face up, and allow the device to be placed in the palm with the nozzle pointing between the thumb and first finger. Then close the thumb and fingers around the device, and perform a maximum contraction, squeezing the device and then relaxing the hand.

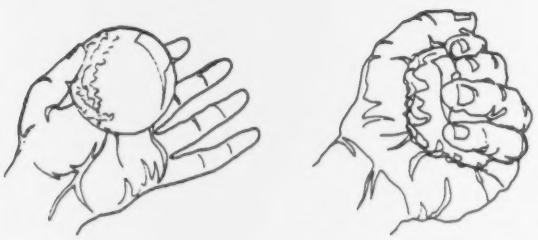
2.6 The individual will turn the left hand, allowing the palm to face up, and allow the device to be placed in the palm with the nozzle pointing between the thumb and first finger. Then close the thumb and fingers around the device, and perform a maximum contraction, squeezing the device and then relaxing the hand. This is repeated for three trials.

Supplementary Activities

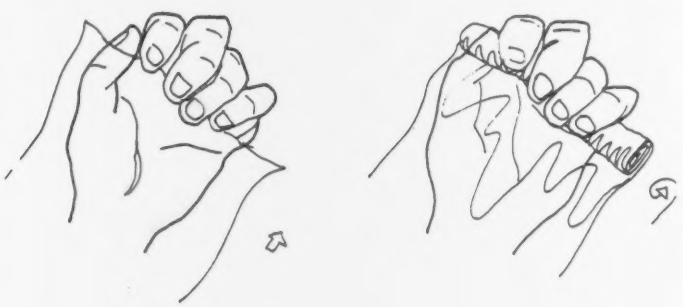
1. Crumbling - Place various kinds of paper (tissue, mimeo, newspapers, construction) in participant's open hand, close hand around paper, attempting to make a "ball" out of the paper.



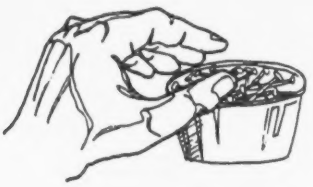
2. Squeezing -
   a. Place cloth, sponge, nerf ball, tennis ball, racquet ball, yarn ball, silly putty, clay, plastic bottle, in open hand. Close hand, squeezing item.
   b. Cable Tensiometer - Participant will squeeze a cable tensiometer with maximum effort.
   c. Hand grips - Participant will squeeze hand grips with resistance. Duration and repetitions are increased.



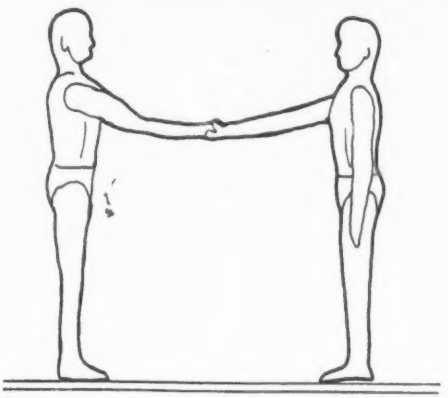
3. Rolling - Place cloth such as a terry cloth towel, a piece of felt, or a wool mitten in hand and roll up with fingers.



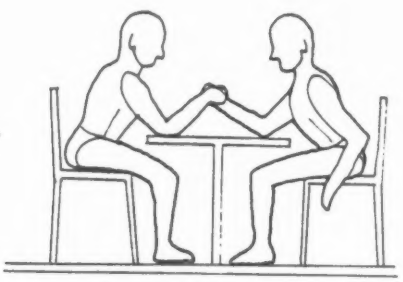
4. Picking-up - Pick up sand, rocks, marbles, and nails from one container and place them in another container. Multiple items will increase weight to be gripped.



5. Shaking hands - Hold trainer's hand and shake. Alternate hands using right to right and left to left.

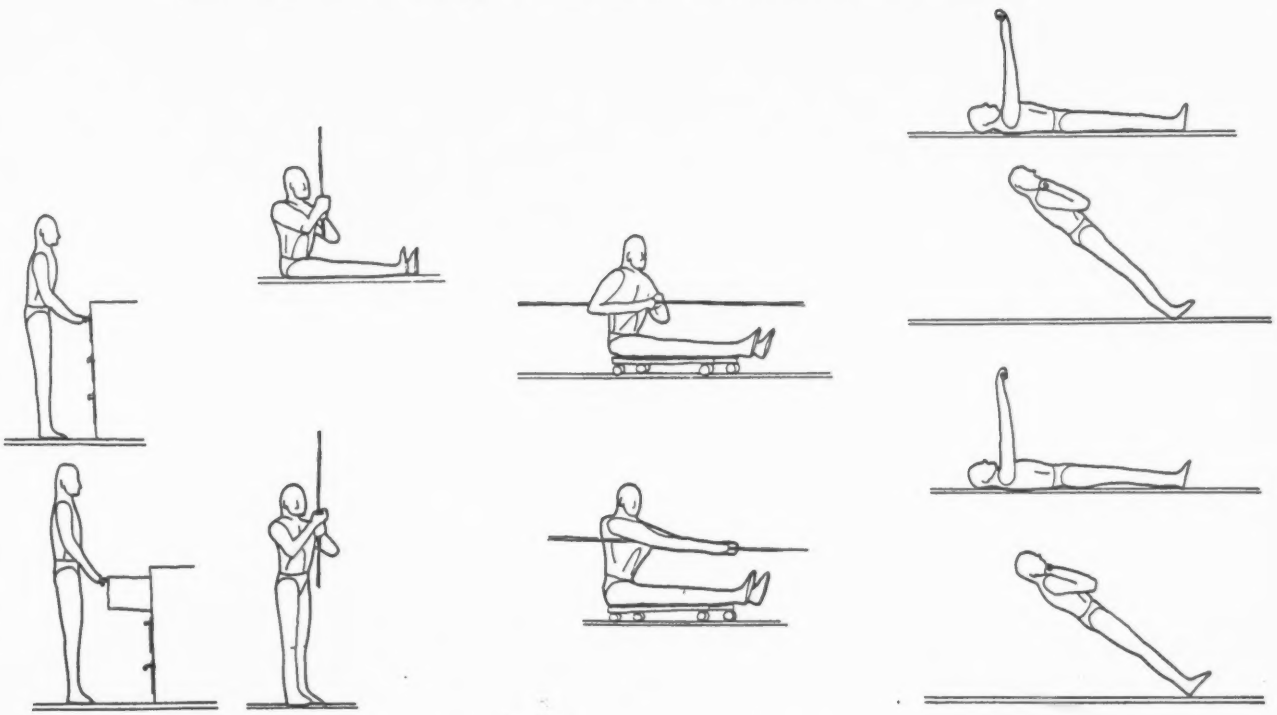


6. Arm wrestling - Assume position of arm on table and flexed at elbow, grasping opponent's corresponding hand. Attempt to push opponent's arm down to table.

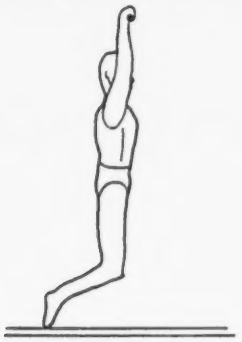


7. Carrying -
   a. Place articles in closed carrying bags, increasing amount of weight. Have participant move from one location to another and stress repetitions.
   b. Carry pail of water from one location to another. Increase amount of water in pail and number of repetitions.
   c. Place articles in a box or milk case that can be gripped from the top and carry from one location to another. Increase articles in container to increase weight and number of repetitions.

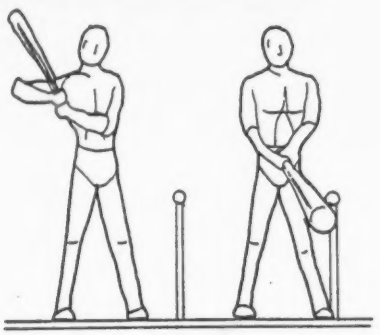
8. Pulling -
   a. Pull out drawers of cabinets and desks.
   b. Grasp rope (hanging vertically) and pull self to standing.
   c. Grasp horizontal rope and from a sitting position, pull self on scooter, on bench or on floor.
   d. While in a back lying position, participant will hold a stationary bar with palms up and pull self up. Participant will alternate hand position and pull self up with palms down. The height of the bar can be increased with mastery.



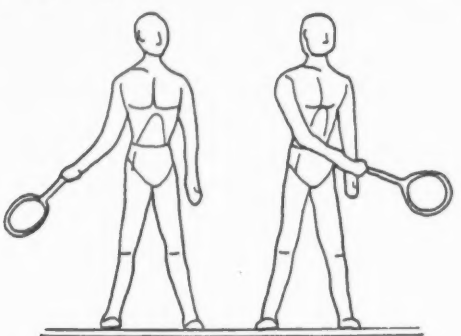
9. Hanging - Participant will perform a straight arm hang from a horizontal bar approximately chin high by bending knees and allowing body weight to hang. As strength improves allow more body weight to hang.



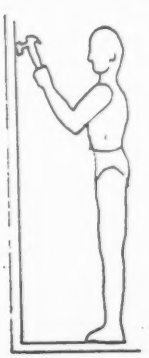
10. Batting - Participant will grip whiffle ball bat, wooden bat or aluminum bat to practice swinging at ball placed on a batting tee.



11. Racquet Swinging - Participant will grip tennis racquet, racquet ball racquet or badminton racquet and swing.



12. Hammering - Participant will grip hammer and hammer against a board.



Generalization Ideas

Use a variety of activities to encourage the generalization of grip strength. Many of these activities are listed in the supplemental activities section previously listed. These activities can be included in many vocational and pre-vocational training programs. It would be logical to plan these types of activities at various times of the day, with a variety of equipment or tasks that could naturally be incorporated in training settings.

Maintenance Ideas

Maintaining the level of grip strength can be enhanced by positively reinforcing grip strength activities on an intermittent basis. Incorporating activities into the vocational or pre-vocational setting may enhance the natural maintenance of the grip strength. As appropriate, use a method of self-recording and evaluation to note if grip strength is being maintained.

Personal Hygiene Curriculum

A. Hand Washing

Goal

To enhance personal hygiene habits, overall appearance, as well as disease control.

Skill

The individual will be able to spontaneously wash hands, independently and as needed.

Materials Needed

A double faucet sink with a single running spout is needed; modifications will be necessary for other sinks. Also required is a towel and soap.

Teaching Recommendations

1. It is best to conduct this activity in a comfortable and as natural a setting as resources permit.

2. Use of bar soap is appropriate for a beginner. In group training, the use of a pump dispenser is recommended for hygienic reasons.

3. Try to stress the importance of hand washing to the participants.

4. Avoid using harsh soaps that may result in skin irritation.

5. The water temperature must be adjusted carefully to avoid burns. An individual may have decreased sensation in the fingers which is needed to discriminate between hot and cold water.

6. Be sure that the individual knows the difference between the location of the hot and cold water faucets.

7. In the case of automatic shut-off faucets, the instructor should initially maintain the "on" position after the individual has initiated the water flow.

Teaching Sequence

INSTRUCTIONAL OBJECTIVE 1: **WATER ADJUSTMENT AND PREPARATION**

The individual will turn the cold, then hot water on and adjust it to a safe and comfortable temperature.

1.1 The individual will turn the cold water on.

1.2 The individual will turn the cold water on and then will slowly turn the hot water on until the temperature is lukewarm. (The individual should test the temperature periodically with a finger while adjusting the faucet.)

INSTRUCTIONAL OBJECTIVE 2: **WETTING HANDS AND APPLYING SOAP**

The individual will turn the water on to a lukewarm temperature and will wet hands, pick up and apply soap, and return soap to sink.

2.1 The individual will turn on the water, adjusting it to lukewarm and then wet hands.

2.2 The individual will turn on the water, adjusting it to lukewarm and then wet hands and pick up soap. (Dispense appropriate amount from pump bottle.)

2.3 The individual will turn on the water adjusting it to lukewarm and then wet hands; pick up and apply soap to hands by rubbing palms together against the soap.

2.4 The individual will turn the water on to a lukewarm temperature and will wet hands, pick up and apply soap, and return soap to sink.

INSTRUCTIONAL OBJECTIVE 3: **WASHING HANDS**

The individual will turn on the water and adjusting it to lukewarm, will wet hands and apply soap to hands. The individual will then wash the front, back and between the fingers of each hand and then rinse off both hands. Finally, the individual will turn off the water and return soap.

3.1 The individual will turn on the water adjusting it to lukewarm and will wet hands, pick up and apply soap to hands. The individual will then wash the front and back of hands and between the fingers of each hand using a brisk scrubbing motion.

3.2 The individual will turn on the water adjusting it to lukewarm and will wet hands, pickup and apply soap to hands. The individual will then wash the front and back of hands and between the fingers of each hand and then rinse off both hands.

3.3 The individual will turn on the water and adjustinq it to lukewarm, will wet and apply soap to hands. The individual will then wash the front, back and between the fingers of each hand and then rinse off both hands. Finally the individual will turn off the water and return soap to sink.

INSTRUCTIONAL OBJECTIVE 4: **DRYING HANDS AND AREA CLEANUP**

The individual will turn on the water, wash and rinse hands and then obtain a towel, dry hands front and back, and replace the towel.

4.1 The individual will turn on the water, wash and rinse hands and then obtain a towel.

4.2 The individual will turn on the water, wash and rinse hands and then obtain a towel and dry both hands, front and back.

4.3 The individual will turn on the water, wash and rinse hands and then obtain a towel, dry both hands both front and back, and replace the towel.

Supplementary Activities

1. Place something sticky or colored on the individual's hands before washing (e.g. finger paint, lotion, paste, clay).

2. Practice hand rubbing movements with dry hands.

3. Use whipped soap suds (Ivory flakes and water, whipped with an egg beater) to increase tactile input from the soap and increase visibility.

4. Wash hands after working, playing, toileting and before meals.

5. Use perfumed soap that leaves fragrance on hands and may be reinforcing itself.

6. Wash out small articles of clothing.

7. Wash dishes.

8. Use simple drawings of hand washing.

9. Use exaggerated verbal and visual cues whenever necessary.

Generalization Ideas

Use a variety of facilities to do hand washing training. These facilities could include different bathrooms within the living, working, training and leisure environment. Various facilities also include different sinks and handles. Variations in kinds, sizes and shapes of soap may also be utilized. This also includes various soap dispensers. Variations of towels which include terrycloth towels and paper towels with different dispensers (e.g. single pull, press and roll) may also enhance training. Changing training times and training with a number of trainers are also methods of generalization training. Another approach to generalization, if more than one hygiene skill is being trained, is to vary the sequencing of the skills being taught.

Maintenance Ideas

Maintaining the level of hand washing skill acquisition may be enhanced by specific reinforcement of the target skill (hand washing) whenever the response occurs and then fading this reinforcement systematically. Fade prompting also when possible. Along with this, verbal feedback about an individual's response (e.g. "Good job of washing your hands when you finished eating your meal!"), or lack of response (e.g. "I'm sorry I can not give you a sticker because you did not wash your hands before eating lunch!"), may enhance maintenance of the skill. Developing a method of self-managing such as self-scheduling, recording and evaluation may support maintenance of hand washing. For further information see Bauman and Iwata (1977); Matson, Marchetti and Adkins (1980); Wood and Flynn (1978).

B. Tooth Brushing

Goal

Tooth brushing will enhance oral hygiene and overall appearance.

Skill

The individual will effectively brush teeth, as needed, independently.

Materials Needed

For this activity a sink with running water, toothbrush, tube of toothpaste, cup, paper towels and/or a washcloth are needed.

Teaching Recommendations

1. It is best to conduct this activity in a comfortable, and as natural a setting as resources permit.

2. Encourage each individual to understand the importance of proper oral hygiene.

3. The use of a soft or medium bristled toothbrush is recommended. Hard-bristled toothbrushes may cause damage to the gums.

4. Individuals without teeth will follow a modified instructional sequence, brushing gums.

5. Due to disease implications when teeth are not adequately cleaned daily, someone must insure that the teeth are adequately brushed to remove plaque and debris.

Teaching Sequence

INSTRUCTIONAL OBJECTIVE 1: **PREPARATION**

The individual will turn on the cold water, pick up a toothbrush by the handle and wet the bristles. The individual will lay the toothbrush down on its stem/back. (An individual may hold brush in mouth.)

1.1 The individual will turn on the cold water.

1.2 The individual will turn on the cold water, then pick up the toothbrush by the handle.

1.3 The individual will turn on the cold water, then pick up the toothbrush by the handle and wet the bristles of the toothbrush under the cold water.

1.4 The individual will turn on the cold water, pick up a toothbrush by the handle and wet the bristles. The individual will lay the toothbrush down on the stem/back. (An individual may hold brush in mouth.)

INSTRUCTIONAL OBJECTIVE 2: **APPLYING TOOTHPASTE TO BRUSH**

The individual will pick up the tube of toothpaste, unscrew the cap and place the cap on the sink. The individual will pick up the toothbrush, place the opening of the toothpaste tube against the bristle of the toothbrush. The individual will then squeeze the toothpaste tube along the bristles, applying the appropriate amount* and replace the cap on the toothpaste. The individual will then replace the toothpaste on the sink.

2.1 The individual will pick up the tube of toothpaste.

2.2 The individual will pick up the tube of toothpaste. Using a free hand, the individual will unscrew the cap (using thumb and index finger) and place the cap back on the sink.

2.3 The individual will pick up the tube of toothpaste, unscrew the cap and place the cap on the sink. The individual will pick up the toothbrush.

2.4 The individual will pick up the tube of toothpaste, unscrew the cap and place the cap on the sink. The individual will pick up the toothbrush, placing the opening of the toothpaste tube against the bristles of the toothbrush.

2.5 The individual will pick up the tube of toothpaste, unscrew the cap and place the cap on the sink. The individual will pick up the toothbrush, placing the opening of the toothpaste tube against the bristles of the toothbrush, squeeze the toothpaste tube, moving it (forward or backward) along the bristles to apply the appropriate amount of toothpaste on the toothbrush.

2.6 The individual will pick up the tube of toothpaste, unscrew the cap and place the cap on the sink. The individual will pick up the toothbrush, placing the opening of the toothpaste tube against the bristles of the toothbrush, squeeze the toothpaste tube, moving it (forward or backward) along the bristles to apply the appropriate amount of toothpaste on the toothbrush, and (individual may hold toothbrush in hand or mouth or place it on sink) replace the cap on the toothpaste.

2.7 The individual will pick up the tube of toothpaste, unscrew the cap and place the cap on the sink. The individual will pick up the toothbrush, place the opening of the toothpaste tube against the bristle of the toothbrush. The individual will then squeeze the toothpaste tube along the bristles, applying the appropriate amount and (individual may hold toothbrush in hand or mouth or place it on sink) replace the cap on the toothpaste. The individual will then replace the toothpaste on the sink.

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* The appropriate amount of toothpaste is no more than half the length of the bristles.

INSTRUCTIONAL OBJECTIVE 3: **BRUSHING TEETH**

The individual will place bristles of the brush against teeth at the gumline; brush one (note right or left) side of the teeth, front teeth and then other side of teeth using a back and forth motion. The individual will next brush the biting surface of the teeth, using a back and forth motion. The individual will lower head and spit into the sink. Finally, the individual will rinse toothbrush under the water and replace it on the sink.

Note:

It is recommended to most effectively clean the gumline area, brushing should be done on the outside and the inside surface of the teeth. This brushing should be done on the upper and lower teeth separately. To observe this brushing, encourage the individual to keep the mouth open while brushing.

3.1 The individual will place the bristles of the brush against the teeth at the gumline.

3.2 The individual will place the bristles of the brush against the teeth at the gumline and will brush one side of the teeth, using a back and forth motion.

3.3 The individual will place bristles of the brush against teeth at the gumline and will brush one side of the teeth, using a back and forth motion. The individual will repeat the sequence on front teeth.

3.4 The individual will place bristles of the brush against teeth at the gumline; brush one side of the teeth, then front teeth, using a back and forth motion. The individual will then brush the other side of the teeth using a back and forth motion.

3.5 The individual will place bristles of the brush against teeth at the gumline; brush one side of the teeth, front teeth and the other side using a back and forth motion. The individual will next brush the biting surface of the teeth, using a back and forth motion.

3.6 The individual will place bristles of the brush against teeth at the gumline; brush one side of the teeth, front teeth and then other side of the teeth using a back and forth motion. The individual will next brush the biting surface of the teeth, using a back and forth motion. The individual will lower head and spit into the sink.

3.7 The individual will place bristles of the brush against teeth at the gumline; brush one side of the teeth, front teeth and then other side of the teeth using a back and forth motion. The individual wil next brush the biting surface of the teeth, using a back and forth motion. The individual will lower head and spit into the sink. Finally, the individual will rinse toothbrush under the water and replace it on the sink.

INSTRUCTIONAL OBJECTIVE 4: **RINSING AND AREA CLEAN-UP**

The individual will pick up cup, fill it with cold water, drink some water from the cup and hold it in mouth, swish it around and return cup to sink. The individual will empty the contents of mouth by lowering head and spitting into the sink. The individual will turn off the water, pick up a paper towel or wash cloth and dry the area around mouth and hands, if necessary. The individual will obtain another paper towel and wipe sink and counter. Finally, the individual will replace the towel or washcloth and replace materials in proper place.

4.1 The individual will pick up a cup.

4.2 The individual will pick up a cup, fill it with cold water.

4.3 The individual will pick up a cup, fill it with cold water, drink some water from the cup and hold water in mouth, and return cup to sink.

4.4 The individual will pick up a cup, fill it with cold water, drink some water from the cup and hold water in mouth, and return cup to sink. The individual will empty the contents of mouth by lowering head and spitting into sink.

4.5 The individual will pick up a cup, fill it with cold water, drink some water from the cup and hold water in mouth, swishing it around and return cup to sink. The individual will empty the contents of mouth by lowering head and spitting into the sink. The individual will turn off the water.

4.6 The individual will pick up a cup, fill it with cold water, drink some water from the cup and hold water in mouth, swishing it around and return cup to sink. The individual will empty the contents of mouth by lowering head and spitting into the sink. The individual will turn off the water and pick up a paper towel or washcloth (which has been placed near the sink).

4.7 The individual will pick up a cup, fill it with cold water, drink some water from the cup and hold water in mouth, swishing it around and return cup to sink. The individual will empty the contents of mouth by lowering head and spitting into the sink. The individual will turn off the water and pick up a paper towel or washcloth (which has been placed near the sink). The individual will dry the area around mouth and hands, if necessary.

4.8 The individual will pick up a cup, fill it with cold water, drink some water from the cup and hold water in mouth, swishing it around and return cup to sink. The individual will empty the contents of mouth by lowering head and spitting into the sink. The individual will turn off the water and pick up a paper towel or washcloth (which has been placed near the sink). The individual will dry the area around mouth and hands, if necessary. The individual will obtain another paper towel and wipe the sink and counter.

4.9 The individual will pick up cup, fill it with cold water, drink some water from the cup and hold it in mouth, swishing it around and return cup to sink. The individual will empty the contents of mouth by lowering head and spitting into the sink. The individual will turn off the water, pick up a paper towel or washcloth and dry the area around mouth and hands, if necessary. The individual will obtain another paper towel and wipe sink and counter. Finally, the individual will replace the towel or washcloth and replace materials in proper place.

Supplementary Activities

1. Practice on a large demonstration model of teeth with a toothbrush.

2. Use disclosure tablets to dramatize the effect of toothbrushing. (red "Kool-Aid" or food coloring creates a similar appearance.)

3. Put colored tape near the open end of the toothpaste tube.

4. Practice hand-to-mouth coordination through other programs (eating finger foods).

5. Put a strip of colored tape on the toothbrush handle to indicate the bristle side.

6. An orally defensive individual may begin with soft toothette and progress to rubber tipped gum massagers. This is only an initial recommendation, as soft toothbrushes clean more effectively.

7. Tighten screw on lids to match individual's strength.

8. Using enlarged outlines of two or three toothbrushes on tag board or oil cloth, have individual practice applying toothpaste to bristle area.

9. Demonstrate spitting water into sink, saying "Petooey" as you release water. Have individual imitate.

10. Place an "X" in sink, with washable marker, for individual to aim for when spitting.

11. Use exaggerated verbal and visual cues whenever necessary.

12. Develop a routine for tooth brushing activities (morning, mealtime, bedtime).

13. Use an individual tooth brushing chart to show activities attempted.

Generalization Ideas

Use a variety of appropriate facilities to do toothbrushing training. These facilities may include different environments associated with the individual such as the individual's living, work, school or leisure environments. Various areas may provide variations in the equipment such as different handles for acquiring water. Variation in kinds of toothpaste containers (e.g. tube, pump) should be utilized. Different kinds of toothbrushes such as manual and electric may enhance toothbrushing generalization. Changing training times as well as using various trainers should be considered. If more than one hygiene skill is being trained during one session, vary the sequencing of the skills being taught.

Maintenance Ideas

Maintaining the same level of toothbrushing skill acquisition may be enhanced by specific reinforcement of the target skill (toothbrushing) whenever the response occurs followed by the gradual fading of such reinforcement. Also fade prompts when possible. Pairing verbal reinforcement with the individuals response (e.g. "I like the way you brushed your teeth after breakfast!") or providing verbal feedback for a lack of response (e.g. "I'm sorry I can not give you a check mark because you did not brush your teeth after dinner!") may enhance maintenance of toothbrushing. Developing a method of self-managing such as self-scheduling, recording and evaluation may support maintenance of toothbrushing. For further information see Bauman and Iwata (1977); Matson, Marchetti and Adkins (1980); Wood and Flynn (1978).

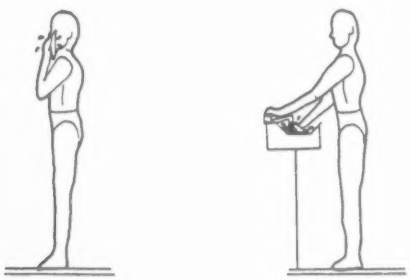
C. Face Washing

Goal

To enhance cleanliness and personal hygiene.

Skill

The individual will be able to wash face, as needed, independently.



Materials Needed

For this activity a double faucet sink with a single running spout is needed; modifications will be necessary for other sinks. Also required is a wash cloth, towel and face soap.

Teaching Recommendations

1. It is best to conduct this activity in a comfortable and as natural a setting as resources permit.

2. Use of bar soap is appropriate for a beginner. In group training, use of a pump dispenser is recommended for hygienic reasons.

3. Try to stress the importance of proper face washing to the participant.

4. Avoid using harsh soaps that may result in skin irritation.

5. The water temperature must be adjusted carefully to avoid burns. Some individuals may have decreased sensation in the fingers needed to discriminate hot and cold water.

6. Be sure that the participant knows the difference between the location of the hot and cold water faucets.

7. A participant may need to tie hair back (possibly with assistance) prior to face washing activities.

8. In the case of automatic shut-off faucets, the instructor should maintain the "on" position after the individual has initiated water flow.

Teaching Sequence

INSTRUCTIONAL OBJECTIVE 1: **WATER ADJUSTMENT AND PREPARATION**

The individual will turn on the cold water and then slowly turn the hot water on until the temperature is lukewarm. (The individual should test the temperature periodically with a finger while adjusting the faucet.)

1.1 The individual will turn the cold water on.

1.2 The individual will turn on the cold water and then slowly turn the hot water on until the temperature is lukewarm. (The individual should test the temperature periodically with a finger while adjusting the faucet.)

INSTRUCTIONAL OBJECTIVE 2: **APPLYING SOAP**

The individual will turn the water on and adjust it to a safe and comfortable temperature. The individual will then wet a wash cloth, pick up and apply soap to the cloth, squeeze excess soapy water from the cloth and return soap to the dish.

2.1 After turning on the water to a lukewarm level the individual will wet wash cloth.

2.2 After turning on the water to a lukewarm level and wetting wash cloth, the individual will pick up the soap and apply it to wash cloth.

2.3 After turning on the water to a lukewarm level and wetting wash cloth, picking up soap and applying soap to wash cloth, the individual will squeeze excess water from the the cloth.

2.4 The individual will turn the water on and adjust it to a safe and comfortable temperature. The individual will then wet a wash cloth, pick up and apply soap to the cloth, squeeze excess water from the cloth and return the soap to the dish.

INSTRUCTIONAL OBJECTIVE 3: **WASHING AND RINSING FACE**

The individual will turn on and adjust the water temperature, wet a wash cloth, pick up and apply soap to the wash cloth, squeeze excess soapy water from the cloth, return soap to dish, then wash and rinse face thoroughly and turn off the water.

3.1 The individual will turn on and adjust the water temperature and apply soap to a wash cloth and spread soap over the entire face without getting soap in the eyes or nostrils. (Encourage use of a circular motion to spread soap.)

3.2 The individual will turn on and adjust the water temperature and apply soap to a wash cloth and spread soap over the entire face and then rinse the wash cloth.

3.3 The individual will turn on and adjust the water temperature and apply soap to a wash cloth and spread soap over the entire face and then rinse the wash cloth, squeezing all excess water from the wash cloth.

3.4 The individual will turn on and adjust the water temperature and apply soap to a wash cloth and spread soap over the entire face, rinse the wash cloth, squeezing all excess water from the wash cloth and then rinse the soap off the face, using the wash cloth.

3.5 The individual will turn on and adjust the water temperature, wet a wash cloth, pick up and apply soap to the wash cloth, squeeze excess soapy water from the cloth, return soap to dish then wash and rinse face thoroughly, and turn off the water.

INSTRUCTIONAL OBJECTIVE 4: **DRYING FACE AND AREA CLEAN-UP**

The individual will turn on and adjust the water temperature, wet a wash cloth, pick up and apply soap to wash cloth, wash and rinse the face and turn off the water. The individual will then obtain a towel, dry face and hands thoroughly and replace towel and wash cloth in proper place.

4.1 After washing the face the individual will take a towel from an area next to the sink.

4.2 After washing the face the individual will take a towel from an area next to the sink and rub the face until it is dry.

4.3 After washing the face the individual will take a towel from an area next to the sink and rub the face until it is dry and then dry hands.

4.4 The individual will turn on and adjust the water temperature, wet a wash cloth, pick up and apply soap to wash cloth, wash and rinse the face and turn off the water. The individual will then obtain a towel, dry face and hands thoroughly and replace towel and wash cloth in proper place.

Supplementary Activities

1. Use a hotel sized soap bar.
2. Practice squeezing out water with a soft sponge or small Nerf ball.
3. Use whipped soap suds (Ivory Flakes and water whipped with an egg beater) to increase tactile input from the soap and increase visibility.
4. Use Crazy Foam or color whipped soap suds, to increase visibility of the soap when rinsing.
5. Practice washing a surface with a soapy cloth and rinsing it.
6. Practice activities that require motion similar to turning a faucet such as screw tops on containers, door knobs, wind-up articles.
7. Use liquid soap as well as bar soap.
8. Practice picking up dry soap, then wet soap.
9. Practice grasping and picking up objects of various size and weight.
10. Use face painting before the task.
11. Use simple drawings of face washing.
12. Use exaggerated verbal and visual cues whenever necessary.
13. Develop a routine for face washing, (e.g. morning, mealtime, bedtime).
14. Use an individual face washing chart to show activities attempted.

Generalization Ideas

Use a variety of facilities to do face washing training. These facilities may be found in the individual's living, working, training and leisure environments. These various locales may provide different styles of sinks and handles. Variations in kinds, sizes and shapes of soap may also be utilized. This also includes various soap dispensers (e.g. wall mounted dispensers, pump dispensers, soap secured within sponge or cloth) and different kinds of towel dispensers (e.g. single pull, press and roll). Changing training times and training with a number of instructors may also add to generalization. If more than one hygiene skill is trained during a session, change the sequencing of the skills being taught.

Maintenance Ideas

Maintaining the level of face washing skill acquisition may be enhanced by specific reinforcement of the target skill (face washing) whenever the response occurs and then fading the reinforcement systematically. Fade prompting also as soon as feasible. Pairing reinforcement with verbal feedback with an individual's skill response (e.g. "Good job in washing your face when you got up this morning!") or verbal feedback on a lack of response (e.g. "I am sorry I cannot give you a sticker because you did not wash your face this morning!"), may also assist in maintenance of face washing. Developing a method of self-managing such as self-scheduling, recording and evaluation may support maintenance of face washing. For more information see Bauman and Iwata (1977); Matson, Marchetti and Adkins (1980); Wood and Flynn (1978).

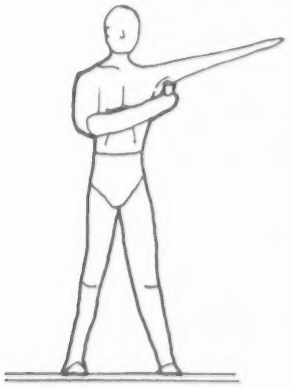
D. Deodorant Use

Goal

To enhance personal hygiene and overall appearance.

Skill

The individual will be able to demonstrate proper independent deodorant use.



Materials Needed

For this activity a can or bottle of deodorant and a table or a stand is needed.

Teaching Recommendations

1. It is best to conduct this activity in a comfortable and as natural a setting as resources permit.

2. Stress the importance of proper deodorant use.

3. When training more than one individual, the use of spray deodorant is recommended for hygienic reasons.

4. If individual is unable to operate spray deodorant safely during pre-test and after 3-4 days of training, begin training with roll-on deodorant.

5. Have individual remove extra layers of clothing before beginning training.

Teaching Sequence

INSTRUCTIONAL OBJECTIVE 1: **DEODORANT PREPARATION**

The individual will loosen shirt or blouse, pick up and shake container of deodorant for at least 3 seconds, remove the cap placing it on the table.

1.1 The individual will loosen shirt or blouse.

1.2 The individual will loosen shirt or blouse and pick up can of deodorant.

1.3 The individual will loosen shirt or blouse, pick up container of deodorant and shake it for at least 3 seconds. (note: if stick type no shaking is needed).

1.4 The individual will loosen shirt or blouse, pick up and shake container of deodorant for at least three seconds, remove the cap and place it on the table.

INSTRUCTIONAL OBJECTIVE 2: **DEODORANT POSITIONING AND APPLICATION 1**

The individual will loosen shirt or blouse, Pick up and shake a container of deodorant for at least 3 seconds, remove the cap placing it on table.(Spray: Place finger on the spray button; spray opening should be pointed away from individual's face.) The individual will then position the deodorant near one underarm and apply deodorant. deodorant. Note whether the right or left side is used.

2.1 The individual will loosen shirt or blouse, pick up and shake a container of deodorant for at least 3 seconds, and remove the cap. (Spray: Place finger on the spray button; spray opening should be pointed away from individual's face.) The individual will then position the deodorant near one underarm.

2.2 The individual will loosen shirt or blouse, pick up and shake a container of deodorant for at least 3 seconds, and remove the cap placing it on table. (Spray: Place finger on the spray button; spray opening should be pointed away from individual's face.) The individual will then position the deodorant near the underarm and apply deodorant.

INSTRUCTIONAL OBJECTIVE 3: **DEODORANT POSITIONING AND APPLICATION 2**

The individual will loosen shirt or blouse, pick up and shake a container of deodorant for at least 3 seconds, and remove the cap placing it on the table. (Spray: Place finger on the spray button; spray opening should be pointed away from individual's face.) The individual will then position the deodorant near the other underarm and apply deodorant.

3.1 The individual will pick up and shake a container of deodorant for at least 3 seconds, remove the cap, placing it on the table and loosen shirt or blouse. (Spray: Place finger on the spray button; spray opening should be pointed away from individual's face.) The individual will then position the deodorant near the other underarm.

3.2 The individual will pick up and shake a container of deodorant for at least 3 seconds, remove the cap placing it on the table. The individual will loosen shirt or blouse. (Spray: Place finger on the spray button; spray opening should be pointed away from individual's face.) The individual will then position the deodorant near the underarm and apply deodorant.

INSTRUCTIONAL OBJECTIVE 4: **AREA CLEAN-UP**

The individual will loosen shirt or blouse, pick up and shake a container of deodorant for at least 3 seconds, remove the cap and place it on the table. The individual will position and apply deodorant to one and then the other underarm. The individual will pick up container cap, replace it tightly and return container to the table.

4.1 The individual will loosen shirt or blouse, pick up and shake a container of deodorant for at least 3 seconds, remove the cap placing it on the table. The individual will position and apply deodorant to right and left underarm. The individual will then pick up container cap, replace it tightly.

4.2 The individual will loosen shirt or blouse, pick up and shake container of deodorant for at least 3 seconds, remove the cap placing it on table. The individual will position and apply deodorant to right and left underarm. The individual will pick up container cap, replace it tightly and return container to the table.

Supplementary Activities

1. Practice applying deodorant to a flat surface such as construction paper.
2. Practice shaking a container with a noise maker inside.
3. Practice shaking a see-through container filled with colored water and a smaller amount of oil.
4. Remove various types of lids found on deodorant containers.
5. Replace various types of lids found on deodorant containers.
6. Practice loosening clothing (for deodorant application) without removing clothing.
7. Chill the deodorant prior to application to increase stimulation in individuals having decreased sensory awareness.
8. Use simple drawings of deodorant use.
9. Use exaggerated verbal and visual cues whenever necessary.
10. Develop a routine for deodorant activities, (e.g. morning, after bathing).
11. Use an individual deodorant use chart to show activities attempted.

Generalization Ideas

Use a variety of deodorant applicators (e.g. spray, roll-on) to do deodorant use training. Vary the appropriate area for deodorant training (e.g. bathrooms of living, work, training and leisure environments). Changing training times and trainers may also develop generalization of deodorant use. If more than one hygiene skill is being trained, vary the sequence being taught.

Maintenance Ideas

Maintaining the level of deodorant use skill acquisition may be enhanced by specific reinforcement of the target skill (deodorant use) whenever the appropriate response occurs and then fading the reinforcement systematically. Fade prompting also as soon as possible. Pairing verbal reinforcement with appropriate deodorant use (e.g. "I like the way you put on your deodorant while getting ready for work this morning!") or verbal feedback dealing with lack of appropriate response (e.g. "I'm sorry I cannot check off your chart because you did not put on deodorant while getting ready for work today!"), may enhance maintenance of this skill. Developing a method of self-managing such as self-scheduling, recording and evaluation may support maintenance of the deodorant use skill. For more information see Bauman and Iwata (1977); Matson, Marchetti and Adkins (1980); Wood and Flynn (1978).

E. Personal Appearance

Goal

Grooming skills will enhance the individual's personal hygiene habits and overall appearance.

Skill

The individual will independently groom hair and arrange clothing (shirt/blouse, dress/pants, belt, shoes, socks) on body in an appropriate manner.

Materials Needed

For this activity a mirror, a hairbrush and a comb/pick are needed. Street clothing including front opening shirt/blouse, fly opening pants/skirt with belt and socks and shoes are also required.

Teaching Recommendations

1. It is best to conduct this activity in a comfortable, and as natural a setting as resources permit.

2. Stress the importance of proper appearance.

3. Use of oversized clothing (2 sizes larger than normal) is recommended for initial training and ease of manipulation for individuals with motoric difficulties.

Teaching Sequence

INSTRUCTIONAL OBJECTIVE 1: **HAIR CARE**
The individual will neatly brush or comb hair on one side (note right or left), then the other side, then in the back and in the front, while looking into the mirror. Where appropriate, the individual will use hair fasteners.

1.1 The individual will neatly brush or comb the hair on one side while looking into the mirror.

1.2 The individual will neatly brush or comb hair on one side while looking into the mirror. The individual will repeat process on the other side.

1.3 The individual will neatly brush or comb hair on one side, then the other side, while looking into the mirror. The individual will then neatly brush or comb hair in the back while looking into the mirror.

1.4 The individual will neatly brush or comb hair on one side, then the other side and then in the back, while looking into the mirror. The individual will neatly brush or comb the front of the hair while looking into the mirror.

1.5 The individual will neatly brush or comb hair on one side, then the other side, then in the back and in the front, while looking into the mirror. Where appropriate the individual will use hair fasteners.

INSTRUCTIONAL OBJECTIVE 2: **SHIRT/BLOUSE APPEARANCE**
The individual will produce a neat, well groomed appearance in the upper body region by adjusting shirt collar, securing buttons, snaps and/or zippers and adjusting shirt tail at the belt line (either in or out).

2.1 The individual will produce a neat, well groomed appearance in the upper body region by appropriately adjusting shirt collar.

2.2 The individual will produce a neat, well groomed appearance in the upper body region by appropriately adjusting shirt collar. The individual will secure any buttons, snaps and/or zippers on shirt or blouse appropriately.

2.3 The individual will produce a neat, well groomed appearance in the upper body region by adjusting shirt collar, securing buttons, snaps and/or zippers and adjusting shirt tail at the belt line (either in or out).

INSTRUCTIONAL OBJECTIVE 3: **PANTS AND SHOES APPEARANCE**
The individual will produce a neat, well groomed appearance in the lower body region by appropriately securing pants opening (zipper) and waistband opening (button, snaps). The individual will appropriately arrange belt through belt loops, correct side out, and secure belt buckle. The individual will appropriately pull up socks or hose (heel in correct position), put on shoes, and appropriately secure (tie, strap) shoes.

3.1 The individual will produce a neat, well groomed appearance by appropriately securing (zipper) pants opening.

3.2 The individual will produce a neat, well groomed appearance by appropriately securing (zipper) pants opening. The individual will appropriately secure waistband opening (button, snap).

3.3 The individual will produce a neat, well groomed appearance in the lower body region by appropriately securing pants opening (zipper) and waistband opening (button, snaps). The individual will appropriately arrange belt through belt loops, correct side out.

3.4 The individual will produce a neat, well groomed appearance in the lower body region by appropriately securing pants opening (zipper) and waistband opening (button, snaps). The individual will appropriately arrange belt through belt loops, correct side out and appropriately secure belt buckle.

3.5 The individual will produce a neat, well groomed appearance in the lower body region by appropriately securing pants opening (zipper) and waistband opening (button, snaps). The individual will appropriately arrange belt through belt loops, correct side out and appropriately secure belt buckle. The individual will appropriately pull up socks or hose (heel in correct position).

3.6 The individual will produce a neat, well groomed appearance in the lower body region by appropriately securing pants opening (zipper) and waistband opening (button, snaps). The individual will appropriately arrange belt through belt loops, correct side out and appropriately secure belt buckle. The individual will appropriately pull up socks or hose (heel in correct position). The individual will appropriately put on shoes.

3.7 The individual will produce a neat, well groomed appearance in the lower body region by appropriately securing pants opening (zipper) and waistband opening (button, snap). The individual will appropriately arrange belt through belt loops, correct side out, and secure belt buckle. The individual will appropriately pull up socks or hose (heel in correct position), put on shoes, and appropriately secure (tie, strap) shoes.

Supplementary Activities

Hair Grooming

1. Comb or brush a large doll's hair or a wig on a form (hair similar to the individual's).

2. Demonstrate grooming another person's hair.

Upper Body Region

3. Use a dressing frame to practice working buttons, snaps and zippers.

4. Use finger cymbals to practice bringing thumb and finger together for snapping.

5. Practice fastening button, snaps and zippers on clothing worn by large doll or another person.

Lower Body Region

6. Attach a large ring, bead or lace to the zipper pull(if necessary).

7. Use loafers for initial training.

8. Lace shoes with black and white laces so that each side has a different color.

9. Use a lacing board to practice lacing and tying.

General Activities

10. Use simple drawings of hair combing, buttoning blouse/shirt, securing pants, putting on shoes and socks.

11. Use exaggerated verbal and visual cues whenever necessary.

12. Develop a routine for personal appearance activities (morning, mealtime, bedtime).

13. Use an individual grooming chart to show activities attempted.

Generalization Ideas

Use a variety of materials (e.g. brush, comb, hairpick, pull-over blouse/shirt, buttoned blouse/shirt, blouses/shirts with snaps, zippers and buttons, pants with pull-up waistband only, pants with zippers, pants with buttons, belts, suspenders, knee socks, golf socks, shoes that tie, shoes with velcro) to do personal appearance training. Changing training times, places and trainers may also enhance personal appearance training. Vary the sequence of personal appearance training (head, upper body, lower body) as well as vary all hygiene skills if there are two or more skills being trained.

Maintenance Ideas

Maintaining the level of personal appearance may be enhanced by specific reinforcement of the target skill (personal appearance) whenever the response or portions of the response occur and then systematically fading this reinforcement. Also fade prompting when possible. Pairing verbal feedback with reinforcement of target skill (e.g. "Good job combing your hair and looking neat!"), may enhance maintenance of personal appearance. Developing a method of self-managing such as self-scheduling, recording and evaluation may support maintenance of personal appearance. For additional information see Bauman and Iwata (1977); Matson, Marchetti and Adkins (1980); Wood and Flynn (1978).

Appendices

A. Abbreviated Fitness and Hygiene Curricula
B. 300 Yard Run/Walk Lay-Out
C. Upper Body Strength/Endurance Device
D. Sit and Reach Apparatus Construction Procedures
E. Sit-up Board Construction
F. Grip Strength Vigorimeter
G. Project TRANSITION Score Sheets

Appendix A: Abbreviated Fitness and Hygiene Curricula

A. Cardiorespiratory Endurance

1.0 1 Run/walk 100 yards
1.1 Run/walk 50 yards
1.2 Run/walk 100 yards

2.0 2 Run/walk 200 yards
2.1 Run/walk 150 yards
2.2 Run/walk 200 yards

3.0 3 Run/walk 300 yards
3.1 Run/walk 250 yards
3.2 Run/walk 300 yards

B. Upper Body Strength/Endurance

1.0 1 Lifting Position
1.1 Sit on mats
1.2 Supine position
1.3 Bar over mid-sternum

2.0 2 Grasp, Lift, Return
2.1 One hand grasp
2.2 Two hand grasp
2.3 Lift
2.4 Return

3.0 3 Endurance Lifting
3.1 Lift X 2
3.2 Lift X 4
3.3 Lift X 6
3.4 Lift X 8

C. Flexibility

1.0 1 Upright Floor Sitting
1.1 Sit, legs straight, arms support
1.2 Sit, feet against box

2.0 2 Forward Lean
2.1 Sit, feet against box, no arm support
2.2 Shoulders forward
2.3 Back rounded
2.4 Hands on knees

3.0 3 Hands On Box
3.1 Arms extended, one hand on box
3.2 Two hands on box (knee check)

4.0 4 Maximum Reach
4.1 Hands overlapped, maximum reach (knee check)

D. Abdominal Strength/Endurance

1.0 1 Seated, Negative Sit-up
1.1 Sit on mat
1.2 Sit, knees flexed, feet 12-18"
1.3 Arms extended
1.4 Negative to supine

2.0 2 Sit-Up, Arms Extended
2.1 Head, shoulders up
2.2 Trunk up
2.3 Sit-up complete

3.0 3 Sit-Up, Arms Crossed
3.1 Cross arms over chest
3.2 Negative to supine
3.3 Head, shoulders up
3.4 Trunk up
3.5 Sit-up complete (30 sec.)
3.6 Sit-up complete (45 sec.)
3.7 Sit-up complete (60 sec.)

E. Grip Strength

1.0 1 Right Hand Grip
1.1 Palm up
1.2 Open palm
1.3 Bulb in palm
1.4 Close fingers
1.5 Maximun contraction
1.6 Repeat max. contraction

2.0 2 Left Hand Grip
2.1 Palm up
2.2 Open Palm
2.3 Bulb in palm
2.4 Close fingers
2.5 Maximum contraction
2.6 Repeat max. contraction

A1. Hand Washing

1.0 1 Water Adjustment
1.1 Cold water
1.2 Hot water

2.0 2 Wet Hands: Soap
2.1 Wet hands
2.2 Pick up soap
2.3 Apply soap
2.4 Return soap to dish.

3.0 3 Wash
3.1 Wash, front/back
3.2 Rinse
3.3 Water off/return soap

4.0 4 Dry/Clean-Up
4.1 Get towel
4.2 Dry well
4.3 Replace towel

B1. Tooth Brushing

1.0 1 Preparation
1.1 Water on
1.2 Pick up brush
1.3 Wet brush
1.4 Lay down brush

2.0 2 Toothpaste
2.1 Pick up paste
2.2 Unscrew cap
2.3 Pick up brush
2.4 Bristles to paste
2.5 Squeeze
2.6 Replace cap
2.7 Replace paste

3.0 3 Brushing
3.1 Bristles against teeth
3.2 Brush side teeth
3.3 Brush front teeth
3.4 Brush other side
3.5 Brush biting surface
3.6 Lower head, spit
3.7 Rinse brush

4.0 4 Rinse/Clean-up
4.1 Pick up cup
4.2 Fill
4.3 Drink plus hold water in mouth
4.4 Swish, spit
4.5 Turn off water
4.6 Pick up towel
4.7 Dry mouth
4.8 Clean up area
4.9 Replace materials

C1. Face Washing

1.0 1 Water Adjustment
1.1 Cold Water
1.2 Adjust hot

2.0 2 Apply Soap
2.1 Wet washcloth
2.2 Pick-up, apply soap
2.3 Squeeze excess water
2.4 Return soap to dish

3.0 3 Wash/Rinse
3.1 Wash face
3.2 Rinse wash cloth
3.3 Squeeze excess water
3.4 Rinse face
3.5 Turn off water

4.0 4 Dry Face/Clean-Up
4.1 Take towel
4.2 Dry face
4.3 Dry hands
4.4 Replace towel/washcloth

D1. Deodorant Use

1.0 1 Preparation
1.1 Loosen shirt
1.2 Pick up container
1.3 Shake
1.4 Remove cap

2.0 2 Application Right Side
2.1 Position deodorant
2.2 Application

3.0 3 Application Left Side
3.1 Position other side
3.2 Application

4.0 4 Area Clean-up
4.1 Replace cap
4.2 Return deodorant

E1. Personal Appearance

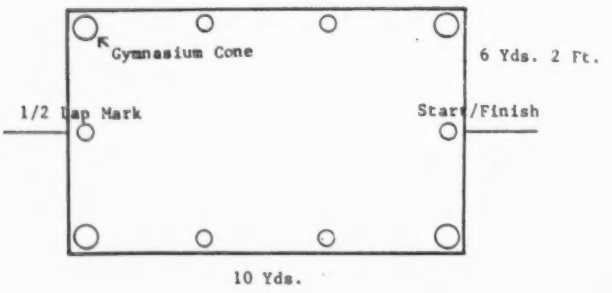
1.0 1 Hair
1.1 Brush one side (mirror)
1.2 Brush other side
1.3 Brush back
1.4 Brush front
1.5 Hair fasteners (?)

2.0 2 Shirt/Blouse
2.1 Collars
2.2 Buttons
2.3 Shirt tail

3.0 3 Pants/Shoes
3.1 Pants zipper
3.2 Waistband
3.3 Belt
3.4 Belt buckle
3.5 Socks
3.6 Shoes on
3.7 Shoes fastened

Appendix B: 300 Yard Run/Walk Lay-Out

The lay-out used by Project TRANSITION for the 300 yard run/walk was a rectangular shape 33 1/3 yards in distance.



Schematic diagram of 300 yard run/walk lay-out

The course should be constructed with large gymnasium cones at each corner. Intermediate cones may be placed along each side to provide more visual cues. In addition, ropes may be connected between the cones to aid some individuals in staying on the course. (Note: The course can be of various shapes, just be consistent in testing situations).

Nine laps are completed around the course for the 300 yard run/walk. The number of laps corresponding to each instructional step follows:

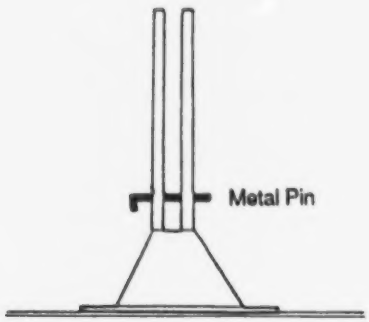
LAPS	INSTRUCTIONAL STEP (YDS)
1.5	50
3	100
4.5	150
6	200
7.5	250
9	300

Appendix C: Upper Body Strength/Endurance Device

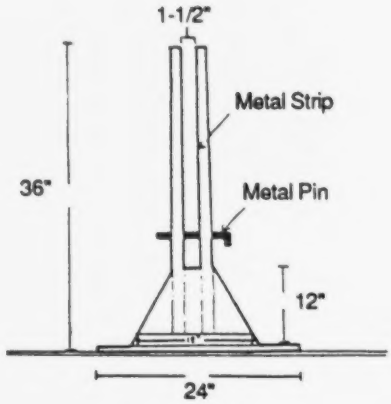
This device is designed to assist the learning of the upper body strength/endurance skill. The primary value is in guiding the barbell in the appropriate direction, countering against unwanted lateral and horizontal movement. The primarily wooden device is made from 2 x 4 inch and 3/4 inch plywood sheets. A metal angle iron can be added to the inside of the lifting guide to improve durability. Additionally, enlarging the weight stops by welding collars (2" in diameter metal washers) to the inside of the existing weight stops of the barbell insures greater lateral stability, and limits uneven tilting of the barbell.

The device is utilized by placing the individual guides side by side, approximately 36 inches apart. The barbell is lowered into the guides and should be able to move up and down freely.

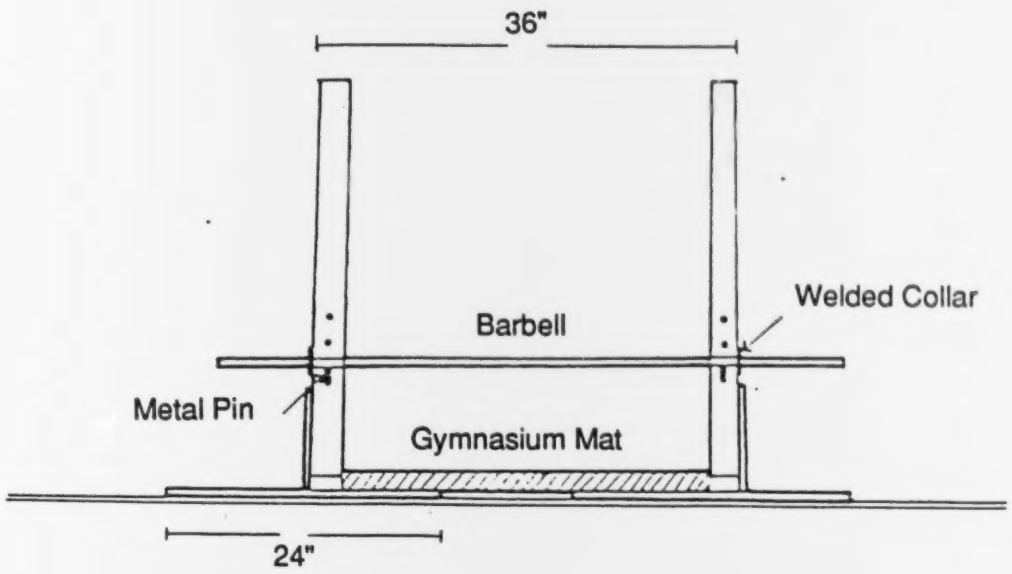
A gymnasium mat to lie on is then placed between the guides (over their bases). This helps to add stability to the base of the device. Metal pins are inserted through the guides to support the barbell. Three different pin heights are available to insure the barbell is placed at the proper height (2-4") above the individual's chest (mid-sternum). A schematic diagram of the device follows:



Outside View



Inside View



Front View

Appendix D: Sit and Reach Apparatus Construction Procedures

1. Using any sturdy wood or comparable construction material (3/4 inch plywood seems to work well), cut the following pieces:

2 pieces	12" x 12"
2 pieces	12" x 10 1/2"
1 piece	12" x 23"
2 pieces	1/4" molding x 23"
1 piece	3 1/4" x 1/2" board x 6"
1 piece	3 1/2" x 3 1/2" board x 10 1/2"

2. Assemble the plywood pieces using nails or screws and wood glue. For convenience, a handle can be made by cutting a 1 x 3 inch hole in the rear panel.

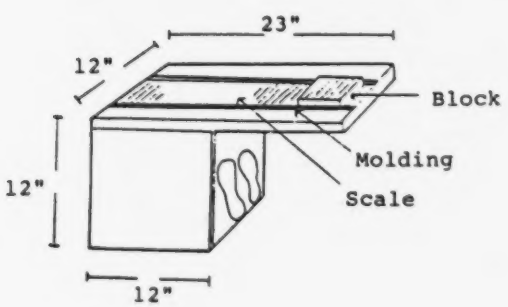
3. Inscribe the top panel with one centimeter gradations. It is crucial that the 23 centimeter line be exactly in line with the vertical panel against which the subject's feet will be placed. The gradations should be marked from -5 centimeters to 50 centimeters.

4. Place molding on top of scale, 6 inches apart (enough room so the wood block can slide through). Inscribe one centimeter gradations on top of the block.

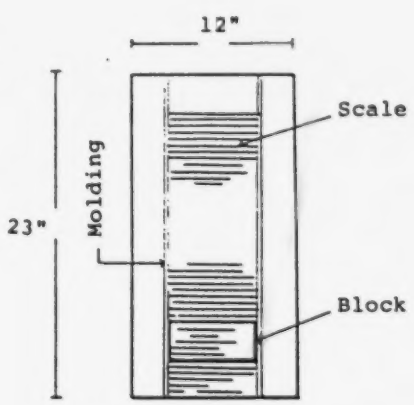
5. Place 3 1/2" x 3 1/2" board, 10 1/2 inches long, inside the box in the bottom rear section to counterweight the box and keep it from tipping forward.

6. Using paint or an indelible ink, outline and fill in two footprints on the front portion of the box to be an additional visual cue.

7. Cover the box with two coats of polyurethane sealer or shellac.



Side View



Top View

Appendix E: Sit-up Board Construction

The sit-up board devices are constructed out of 1/2 inch or 3/4 inch plywood. The plywood is cut into rectangles 24 x 36 inches. The foot holding device may be constructed in three ways:

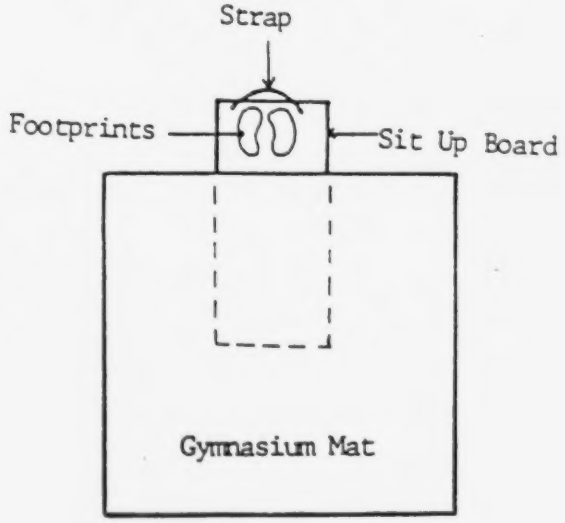
1. Two inches down from the end of the board drill 2 holes (1/2 inch in diameter), 12 inches apart in the center of the board. Loop a rope through the holes allowing enough for two feet to fit under and knot the ends of the rope on the back of the board.

2. Use a section of stretch cord or tire tube approximately 8 to 12 inches long. Use carpenters staples to affix the stretch cord to the end of the board. Allow enough tension in the cord to fit two feet snugly underneath.

3. Use an 18 inch long section of 2 inch webbing with velcro. Using wood screws and two 2 x 1/2 inch metal plates, place and affix the velcro to the top of the board approximately 8 inches apart. The metal plates should be placed 3-4 inches in from the end of the board.

Footprints for a visual cue can then be applied at the end of the board using paint, indelible marker or shapes cut out of contact paper. Cover the wood portions of the board with two coats of polyurethane sealer or shellac.

The sit-up boards are utilized by slipping them under any gymnasium mat so that the top portion of the board (with the foot holding device and footprints) are exposed. The feet are secured and no assistance is needed to maintain foot position.



Top View

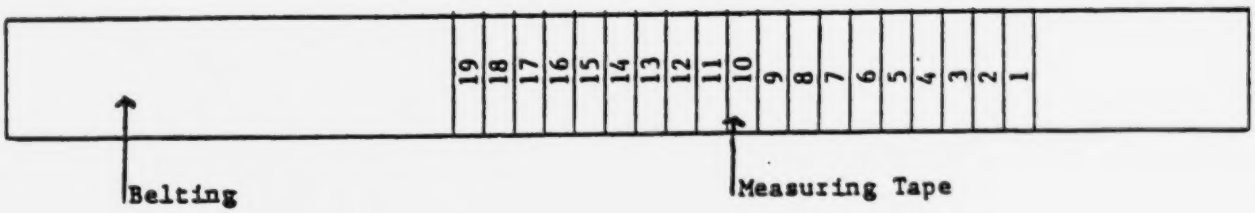
Appendix F: Grip Strength Vigorimeter

A vigorimeter hand grip dynamometer was used to assess grip strength. This device consists of a syringe bulb (of various sizes) which is attached to a manometer by rubber tubing. The participant closes the hand over the syringe bulb, compressing it quickly. The work load performed by the participant's squeeze is shown on the manometer, calibrated in kilopont (Kpa).

Due to the variance in the hand size, two syringe bulbs (medium and large) were used. The correct bulb size was determined by measuring the metacarpal circumference. A measurement of less than 19 cm. requires the medium bulb. A circumference of 19 or greater requires the large bulb.

The Vigorimeter is manufactured bv Gebruder Martin, P.O. Box 60, D-7200 Tuttlingen, F.R. of Germany. It is distributed by Elmed Incorporated, 60 West Fay Avenue, Addison, Illinois, 60101.

To measure the metacarpal circumference, a measurement strap was constructed. A 30 centimeter long piece of 1 inch woven twill belting was used. Attached to the belting was a plastic measuring tape marked in centimeters. This allowed for consistency in measuring the participant's hand size.



Appendix G: Project TRANSITION Score Sheets

Project TRANSITION Score Sheet
CARDIORESPIRATORY ENDURANCE

NAME _____
DATE _____
SCORER _____
TEST _____

LEVELS OF INDEPENDENCE

STEPS	(0) UO	(1) HI PHY+	(2) MIN PHY+	(3) HI V/M	(4) MIN V	(5) IND	TOTAL INDEPENDENCE
1.1							
1.2							
2.1							
2.2							
3.1							
3.2							
Sub-totals							

Abbreviated Curriculum Steps

1.1 Run/walk 50 yards
1.2 Run/walk 100 yards
2.1 Run/walk 150 yards
2.2 Run/walk 200 yards
3.1 Run/walk 250 yards
3.2 Run/walk 300 yards

Scoring Key

Unobserved-Will not attempt (0 points)
High Physical+-Constant physical prompt, in addition to verbal prompting w/modeling (1 point)
Minimal Physical+-Physical to initiate, in addition to verbal w/modeling (2 points)
High Verbal/Modeling-Verbal and modeling (3 points)
Minimal Verbal-Verbal direction throughout steps (4 points)
Independence-Verbal direction to initiate (5 points)

Total Independence-Self initiation of skill, not to be considered in scoring.

___ % Task Score $\left(\frac{\#\text{ Steps Ind.}}{6}\right) \times 100$

___ Ave. Ind. Score $\left(\frac{\text{Sum Points}}{30}\right) \times 100$

___ Performance Score

Observations: _____

_____

Reinforcer: _____

_____

Reinforcement Schedule: _____

_____

Project TRANSITION Score Sheet
UPPER BODY STRENGTH/ENDURANCE

NAME _____
DATE _____
SCORER _____
TEST _____

LEVELS OF INDEPENDENCE

STEPS	(0) UO	(1) HI PHY+	(2) MIN PHY+	(3) HI V/M	(4) MIN V	(5) IND	TOTAL INDEPENDENCE
1.1							
1.2							
1.3							
2.1							
2.2							
2.3							
2.4							
3.1							
3.2							
3.3							
3.4							
Sub-totals							

Abbreviated Curriculum Steps

1.1 Sit on mats
1.2 Supine position
1.3 Bar over mid-sternum
2.1 One hand grasp
2.2 Two hand grasp
2.3 Lift
2.4 Return
3.1 Lift x 2
3.2 Lift x 4
3.3 Lift x 6
3.4 Lift x 8

Scoring Key

Unobserved-*Will not attempt (0 points)*
High Physical+-*Constant physical prompt, in addition to verbal prompting w/modeling (1 point)*
Minimal Physical+-*Physical to initiate, in addition to verbal w/modeling (2 points)*
High Verbal/Modeling-*Verbal and modeling (3 points)*
Minimal Verbal-*Verbal direction throughout steps (4 points)*
Independence-*Verbal direction to initiate (5 points)*

Total Independence-*Self initiation of skill, not to be considered in scoring.*

___ *% Task Score* $\left(\frac{\text{\# Steps Ind.}}{11}\right) \times 100$

___ *Ave. Ind. Score* $\left(\frac{\text{Sum Points}}{55}\right) \times 100$

___ *Performance Score*

Observations: _____

_____

Reinforcer: _____

_____

Reinforcement Schedule: _____

_____

Project TRANSITION Score Sheet

FLEXIBILITY

NAME _____

DATE _____

SCORER _____

TEST _____

Abbreviated Curriculum Steps

1.1 Sit, legs straight, arms support

1.2 Sit, feet against box

2.1 Sit, feet against box, no arm support

2.2 Shoulders forward

2.3 Back rounded

2.4 Hands on knees

3.1 Arms extended, one hand on box

3.2 Two hands on box (knee check)

4.1 Hands overlapped, maximum reach (knee check)

Sub-totals

LEVELS OF INDEPENDENCE

STEPS	UO (0)	HI PHY+ (1)	MIN PHY+ (2)	HI V/M (3)	MIN V (4)	IND (5)	TOTAL INDEPENDENCE
1.1							
1.2							
2.1							
2.2							
2.3							
2.4							
3.1							
3.2							
4.1							

Scoring Key

Unobserved-Will not attempt (0 points)

High Physical+-Constant physical prompt, in addition to verbal prompting w/modeling (1 point)

Minimal Physical+-Physical to initiate, in addition to verbal w/modeling (2 points)

High Verbal/Modeling-Verbal and modeling (3 points)

Minimal Verbal-Verbal direction throughout steps (4 points)

Independence-Verbal direction to initiate (5 points)

Total Independence-Self initiation of skill, not to be considered in scoring.

___% Task Score $\left(\frac{\text{\# Steps Ind.}}{9}\right) \times 100$

___Ave. Ind. Score $\left(\frac{\text{Sum Points}}{45}\right) \times 100$

___Performance Score

Observations: _____

_____

Reinforcer: _____

_____

Reinforcement Schedule: _____

_____

Project TRANSITION Score Sheet

ABDOMINAL ENDURANCE

NAME _____

DATE _____

SCORER _____

TEST _____

LEVELS OF INDEPENDENCE

STEPS	(0) UO	(1) HI PHY+	(2) MIN PHY+	(3) HI V M	(4) MIN V	(5) IND	TOTAL INDEPENDENCE
1.1							
1.2							
1.3							
1.4							
2.1							
2.2							
2.3							
3.1							
3.2							
3.3							
3.4							
3.5							
3.6							
3.7							
Sub-totals							

Abbreviated Curriculum Steps

1.1 Sit on mat

1.2 Sit, knees flexed, feet 12-18"

1.3 Arms extended

1.4 Negative to supine

2.1 Head, shoulders up

2.2 Trunk up

2.3 Sit-up complete

3.1 Cross arms over chest

3.2 Negative to supine

3.3 Head, shoulders up

3.4 Trunk up

3.5 Sit-up complete (30 sec)

3.6 Sit-up complete (45 sec)

3.7 Sit-up complete (60 sec)

Scoring Key

Unobserved-Will not attempt (0 points)

High Physical+-Constant physical prompt, in addition to verbal prompting w/modeling (1 point)

Minimal Physical+-Physical to initiate, in addition to verbal w/modeling (2 points)

High Verbal/Modeling-Verbal and modeling (3 points)

Minimal Verbal-Verbal direction throughout steps (4 points)

Independence-Verbal direction to initiate (5 points)

Total Independence-Self initiation of skill, not to be considered in scoring.

___% Task Score $\left(\frac{\text{\# Steps Ind.}}{14}\right) \times 100$

___Ave. Ind. Score $\left(\frac{\text{Sum Points}}{70}\right) \times 100$

___Performance Score

Observations: _____

_____

Reinforcer: _____

_____

Reinforcement Schedule: _____

_____

Project TRANSITION Score Sheet

GRIP STRENGTH

NAME _____

DATE _____

SCORER _____

TEST _____

LEVELS OF INDEPENDENCE

Abbreviated Curriculum Steps	*STEPS*	*UO (0)*	*HI PHY+ (1)*	*MIN PHY+ (2)*	*HI V/M (3)*	*MIN V (4)*	*IND (5)*	*TOTAL INDEPENDENCE*
1.1 Palm up	*1.1*							
1.2 Open palm	*1.2*							
1.3 Bulb in palm	*1.3*							
1.4 Close fingers	*1.4*							
1.5 Maximum contraction	*1.5*							
1.6 Repeat maximum contraction	*1.6*							
2.1 Palm up	*2.1*							
2.2 Open palm	*2.2*							
2.3 Bulb in palm	*2.3*							
2.4 Close fingers	*2.4*							
2.5 Maximum contraction	*2.5*							
2.6 Repeat maximum contraction	*2.6*							
Sub-totals								

Scoring Key

Unobserved-Will not attempt (0 points)

High Physical+-Constant physical prompt, in addition to verbal prompting w/modeling (1 point)

Minimal Physical+-Physical to initiate, in addition to verbal w/modeling (2 points)

High Verbal/Modeling-Verbal and modeling (3 points)

Minimal Verbal-Verbal direction throughout steps (4 points)

Independence-Verbal direction to initiate (5 points)

Total Independence-Self initiation of skill, not to be considered in scoring.

___ *% Task Score* $\left(\frac{\text{\# Steps Ind.}}{12}\right) \times 100$

___ *Ave. Ind. Score* $\left(\frac{\text{Sum Points}}{60}\right) \times 100$

___ *Performance Score*

Observations: _____

_____

Reinforcer: _____

_____

Reinforcement Schedule: _____

_____

Project TRANSITION Score Sheet

HAND WASHING

NAME _____

DATE _____

SCORER _____

TEST _____

LEVELS OF INDEPENDENCE

STEPS	(0) UO	(1) HI PHY+	(2) MIN PHY+	(3) HI V/M	(4) MIN V	(5) IND	TOTAL INDEPENDENCE
1.1							
1.2							
2.1							
2.2							
2.3							
2.4							
3.1							
3.2							
3.3							
4.1							
4.2							
4.3							
Sub- totals							

Abbreviated Curriculum Steps

1.1 Cold water

1.2 Hot water

2.1 Wet hands

2.2 Pick-up soap

2.3 Apply soap

2.4 Return soap to dish

3.1 Wash, front/back

3.2 Rinse

3.3 Water off/return soap

4.1 Get towel

4.2 Dry well

4.3 Replace towel

Scoring Key

Unobserved-Will not attempt (0 points)

High Physical+-Constant physical prompt, in addition to verbal prompting w/modeling (1 point)

Minimal Physical+-Physical to initiate, in addition to verbal w/modeling (2 points)

High Verbal/Modeling-Verbal and modeling (3 points)

Minimal Verbal-Verbal direction throughout steps (4 points)

Independence-Verbal direction to initiate (5 points)

Total Independence-Self initiation of skill, not to be considered in scoring.

___% Task Score $\left(\frac{\#\text{ Steps Ind.}}{12}\right) \times 100$

___ Ave. Ind. Score $\left(\frac{\text{Sum Points}}{60}\right) \times 100$

Observations: _____

_____

Reinforcer: _____

_____

Reinforcement Schedule: _____

_____

122

Project TRANSITION Score Sheet
TOOTHBRUSHING

NAME _____

DATE _____

SCORER _____

TEST _____

Abbreviated Curriculum Steps	STEPS	LEVELS OF INDEPENDENCE: UO (0)	HI PHY+ (1)	MIN PHY+ (2)	HI V/M (3)	MIN V (4)	IND (5)	TOTAL INDEPENDENCE
1.1 Water on	1.1							
1.2 Pick-up brush	1.2							
1.3 Wet brush	1.3							
1.4 Lay down brush	1.4							
2.1 Pick-up paste	2.1							
2.2 Unscrew cap	2.2							
2.3 Pick-up brush	2.3							
2.4 Bristles to paste	2.4							
2.5 Squeeze	2.5							
2.6 Replace cap	2.6							
2.7 Replace paste	2.7							
3.1 Bristles against teeth	3.1							
3.2 Brush side teeth	3.2							
3.3 Brush front	3.3							

Abbreviated Curriculum Steps	STEPS	LEVELS OF INDEPENDENCE: UO (0)	HI PHY+ (1)	MIN PHY+ (2)	HI V/M (3)	MIN V (4)	IND (5)	TOTAL INDEPENDENCE
3.4 Brush other side	3.4							
3.5 Brush biting surface	3.5							
3.6 Lower head, spit	3.6							
3.7 Rinse brush	3.7							
4.1 Pick-up cup	4.1							
4.2 Fill	4.2							
4.3 Drink + hold water in mouth	4.3							
4.4 Swish, spit	4.4							
4.5 Turn off water	4.5							
4.6 Pick-up towel	4.6							
4.7 Dry mouth	4.7							
4.8 Clean-up area	4.8							
4.9 Replace materials	4.9							
Sub-totals								

Scoring Key

Unobserved-Will not attempt (0 points)

High Physical+-Constant physical prompt, in addition to verbal prompting w/modeling (1 point)

Minimal Physical+-Physical to initiate, in addition to verbal w/modeling (2 points)

High Verbal/Modeling-Verbal and modeling (3 points)

Minimal Verbal-Verbal direction throughout steps (4 points)

Independence-Verbal direction to initiate (5 points)

Total Independence-Self initiation of skill, not to be considered in scoring.

___ % Task Score $\left(\frac{\text{\# Steps Ind.}}{27}\right) \times 100$

___ Ave. Ind. Score $\left(\frac{\text{Sum Points}}{135}\right) \times 100$

Observations: _____

Reinforcer: _____

Reinforcement Schedule: _____

Project TRANSITION Score Sheet
FACE WASHING

NAME _____
DATE _____
SCORER _____
TEST _____

LEVELS OF INDEPENDENCE

Abbreviated Curriculum Steps	STEPS	(0) UO	(1) HI PHY+	(2) MIN PHY+	(3) HI V/M	(4) MIN V	(5) IND	TOTAL INDEPENDENCE
1.1 Cold water	1.1							
1.2 Adjust hot	1.2							
2.1 Wet washcloth	2.1							
2.2 Pick-up, apply soap	2.2							
2.3 Squeeze excess water	2.3							
2.4 Return soap to dish	2.4							
3.1 Wash face	3.1							
3.2 Rinse washcloth	3.2							
3.3 Squeeze excess water	3.3							
3.4 Rinse face	3.4							
3.5 Turn off water	3.5							
4.1 Take towel	4.1							
4.2 Dry face	4.2							
4.3 Dry hands	4.3							
4.4 Replace towel/washcloth	4.4							
Sub-totals								

Scoring Key

Unobserved - Will not attempt (0 points)
High Physical+ - Constant physical prompt, in addition to verbal prompting w modeling (1 point)
Minimal Physical+ - Physical to initiate, in addition to verbal w modeling (2 points)
High Verbal Modeling - Verbal and modeling (3 points)
Minimal Verbal - Verbal direction throughout steps (4 points)
Independence - Verbal direction to initiate (5 points)

Total Independence - Self initiation of skill, not to be considered in scoring.

___% Task Score $\left(\frac{\text{\# Steps Ind.}}{15}\right) \times 100$

___ Ave. Ind. Score $\left(\frac{\text{Sum Points}}{75}\right) \times 100$

Observations: _____

_____

Reinforcer: _____

_____

Reinforcement Schedule: _____

_____

Project TRANSITION Score Sheet
DEODORANT USE

NAME _____
DATE _____
SCORER _____
TEST _____

Abbreviated Curriculum Steps

1.1 Loosen shirt
1.2 Pick up container
1.3 Shake
1.4 Remove cap
2.1 Position deodorant
2.2 Application
3.1 Position other side
3.2 Application
4.1 Replace cap
4.2 Return deodorant

LEVELS OF INDEPENDENCE

STEPS	(0) UO	(1) HI PHY+	(2) MIN PHY+	(3) HI V/M	(4) MIN V	(5) IND	TOTAL INDEPENDENCE
1.1							
1.2							
1.3							
1.4							
2.1							
2.2							
3.1							
3.2							
4.1							
4.2							
Sub-totals							

Scoring Key

Unobserved-Will not attempt (0 points)
High Physical+-Constant physical prompt, in addition to verbal prompting w/modeling (1 point)
Minimal Physical+-Physical to initiate, in addition to verbal w/modeling (2 points)
High Verbal/Modeling-Verbal and modeling (3 points)
Minimal Verbal-Verbal direction throughout steps (4 points)
Independence-Verbal direction to initiate (5 points)

Total Independence-Self initiation of skill, not to be considered in scoring.

___% Task Score $\left(\frac{\text{\# Steps Ind.}}{10}\right) \times 100$

___Ave. Ind. Score $\left(\frac{\text{Sum Points}}{30}\right) \times 100$

Observations: _____

Reinforcer: _____

Reinforcement Schedule: _____

Project TRANSITION Score Sheet

PERSONAL APPEARANCE

NAME _____

DATE _____

SCORER _____

TEST _____

LEVELS OF INDEPENDENCE

Abbreviated Curriculum Steps	*STEPS*	*UO (0)*	*HI PHY+ (1)*	*MIN PHY+ (2)*	*HI V/M (3)*	*MIN V (4)*	*IND (5)*	*TOTAL INDEPENDENCE*
1.1 Brush one side (mirror)	*1.1*							
1.2 Brush other side	*1.2*							
1.3 Brush back	*1.3*							
1.4 Brush front	*1.4*							
1.5 Hair fasteners (?)	*1.5*							
2.1 Collars	*2.1*							
2.2 Buttons	*2.2*							
2.3 Shirt tail	*2.3*							
3.1 Pants zipper	*3.1*							
3.2 Waistband	*3.2*							
3.3 Belt	*3.3*							
3.4 Belt buckle	*3.4*							
3.5 Socks	*3.5*							
3.6 Shoes on	*3.6*							
3.7 Shoes fastened	*3.7*							
	Sub-totals							

Scoring Key

Unobserved - *Will not attempt (0 points)*

High Physical+ - *Constant physical prompt, in addition to verbal prompting w modeling (1 point)*

Minimal Physical+ - *Physical to initiate, in addition to verbal w modeling (2 points)*

High Verbal Modeling - *Verbal and modeling (3 points)*

Minimal Verbal - *Verbal direction throughout steps (4 points)*

Independence *Verbal direction to initiate (5 points)*

Total Independence *Self initiation of skill, not to be considered in scoring.*

___ *% Task Score* $\left(\frac{\text{\# Steps Ind.}}{15}\right) \times 100$

___ *Ave. Ind. Score* $\left(\frac{\text{Sum Points}}{75}\right) \times 100$

Observations: _____

_____

Reinforcer: _____

_____

Reinforcement Schedule: _____

_____

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